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Negotiations with other institutes and organizations regarding co-operation on the production of this Bulletin are still proceeding. So far the following bodies have promised to lend their co-operation:

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HIGHER EDUCATION AND RESEARCH IN THE NETHERLANDS

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Editorial

One of the functions this periodical has to perform is to supply information about the study of certain branches of science in the Netherlands.

This time attention is focussed in the first place on oriental studies, an extensive field of learning in which some quarters in our country can boast a long and venerable tradition. We are indebted to Professor Dr. G. W. J. Drewes for contributing an historical survey and to Professor Dr. E. M. Uhlenbeck for collecting material regarding oriental studies, which the reader will find in various places in the Chronicle section of this bulletin. A reprint of the relevant contributions in this Bulletin will be available upon request to NUFFIC (U.S. $ 1,—).

Scientific research is not confined to university circles alone. The research carried out by private businesses is also of high importance. We are gratified, therefore, that Dr. J. P. K. van der Steur should have been found ready to provide an account of this work.

The present issue completes the first volume of this Bulletin. We are grateful for the reactions to what we have published received during the past year, and we hope that our periodical will be able to make a contribution towards strengthening international co-operation in the coming year as well.

ORIENTAL STUDIES IN THE NETHERLANDS

AN HISTORICAL SURVEY

The history of Oriental studies in the Netherlands begins with the rise of the Dutch Republic and the founding by this young state, while still struggling for its freedom, of its own universities. Prior to this, the Low Countries had already possessed a flourishing centre of higher education in the ancient and illustrious University of Louvain, surpassed in fame only by the university at Rome. When Protestantism began to gain increasing ground in the Northern Netherlands, however, this seat of learning – situated as it was in the Southern Netherlands, which were still under Spanish rule – was no longer a suitable place for the youth of Holland and Zeeland to pursue their studies. Accordingly, in 1575, the first university in the Northern Netherlands was founded in Leyden, which city had successfully withstood a siege by the Spaniards.

This young university was not long in attracting to its halls well-known men of learning from other countries. One of these was the famous Frenchman, Scaliger (1540–1608), whose many academic attainments included a knowledge of Arabic. Scaliger's portrait, depicting him with an Arabic manuscript before him, still adorns the Senate Chamber at the University of Leyden.

A special chair of Arabic studies, however, did not yet exist at that time. Instruction was given, officially, in Hebrew only. The study of this language had won a place for itself next to Latin and Greek during the Renaissance. In the Protestant countries it was held in even higher regard, since here the study of the Bible in its original text was highly desired.

The chairs of Hebrew at the Netherlands universities have been repeatedly occupied by scholars of great eminence. Several of them were also conversant with other Oriental languages besides Hebrew, in the first place, of course, the so-called "dialects", by which in those days and for a long time afterwards one understood the other Semitic languages, such as Syrian, Aramaic and Ethiopian. It was assumed that all these languages were hybrid versions of Hebrew. Non-Semitic languages, such as Persian and Turkish, were also studied – albeit on a modest scale.

The master-printer and scholar, Raphalengius (1539–1597), lived at Leyden for more than ten years as one of the first professors of Hebrew at the university. He had Arabic characters cut for his printing press and used them for the publication of an Arabic translation of Psalm 50, by way of a sample. This was the first book in Arabic to be printed in the Netherlands (1595), and by virtue of its publication Raphalengius became the father of Arabic typography in this country.

After Scaliger's death only a short time was to pass before a chair of Arabic was instituted at the university, the idea of doing so having been under consideration for some years. The chair was inaugurated in 1613 and the first professor to occupy it was the young Dutch Arabist, Thomas Erpenius (1584–1624), the author of an Arabic grammar, which was used all over Europe for almost two centuries. A new impression of this was even issued once again in Paris as late as 1844. Erpenius also had Arabic characters cut and founded his own Oriental printing press, where he printed texts he had himself edited. It would take us too far out of our way to give a full description here of Erpenius' pioneer work in the field of Arabic studies in Europe, a field in which practically nothing had been done at the time. We prefer instead to seek an explanation for the great interest that was taken in Oriental languages, and in Arabic particularly, at the beginning of the 17th century in Holland. The underlying motives for this interest were highly diverse, including a practical motive, an academic, a religious and – later on especially – a theological motive. The Dutch maintained such lively commercial relations with numerous countries of the East that the accumulation of knowledge and experience about these countries was regarded as a matter of the highest importance. Brisk trade with numerous Mediterranean ports led to an exchange of diplomatic missions and the signing of treaties with Muslim rulers, and it was the Arabic scholars of Leyden University who were called upon to translate these documents and to assist in diplomatic negotiations with representatives from the Barbary states.

By making first mention of the practical motive we may be doing injustice to the spirit of the time, for there can be no doubt that missionary zeal also played an important rôle. By publishing and distributing copies of the Bible and Protestant formularies in Arabic, our forefathers hoped to contribute to the spread of Christianity in Muslim countries and, by making a study of Islam, to acquire a better knowledge of the religious ideas existing among the people who were to be the object of their missionary zeal. In view of this it is understandable – and at the same time how modern in outlook – that even in those early days Erpenius should have agitated for the appointment of a "Moorish" lecturer in spoken Arabic to give his students a practical training.

The academic motive shows clearly in Erpenius' successor to the Leyden chair of Arabic, Jakob Gool (Golius). Erpenius had repeatedly drawn attention to the richness of Arabic literature, also in the field of the exact sciences. It was by way of these sciences that Golius had come to study Arabic in the first place. He had studied mathematics, physics and astronomy and now hoped to be able to make use of the Arabic translations of Greek authors on these subjects in order to emend corrupt Greek texts. His study of Arabic, however, proved to have a decisive influence on his further career. In view of the wide range of his knowledge he was appointed, as engineer, to join a Dutch embassy which was despatched to the Sultan of Morocco to negotiate the construction of a port of refuge for Dutch ships in the Sultan's territory. Golius naturally sized this opportunity to improve his proficiency in Arabic. At the same time he collected manuscripts, for in those days there were only few copies of works in Arabic in European libraries, which meant that each scholar had to procure the material for his study himself. On his return to the home country, Golius was appointed successor to his deceased teacher, Erpenius, though he did not take up his duties until he had made another journey to Syria, Irak and Constantinople. He returned once again with a rich collection of manuscripts, and this material, supplemented by that which he received for his use from elsewhere, he employed to compile his Arabic-Latin dictionary. This dictionary, which he based on a lexicon compiled by an Arab author, was the most important dictionary of its kind in Europe for about 175 years, and the Arabic-Latin dictionary by G. W. Freytag, which eventually took its place, is, in fact, little more than an enlarged and revised edition of Golius's work.

Part of the collection of manuscripts which Golius had purchased was destined for the University Library at Leyden, and together with the manuscripts bequeathed by Scaliger, they form the oldest group of manuscripts in the university's possession. This collection was shortly to undergo a considerable increase. In 1688, that is to say, it was enriched by the "Legatum Warnerianum", the oriental manuscripts which Levinus Warner had collected in Stamboul and which he left to the library on his death in 1665. The Oriental Department of the Leyden University library, which now contains about 8.000 manuscripts in various languages, is still to this day popularly referred to as the "Warner" department. In 1729, the curators of the university instituted the function of "interpres" in connection with this Legatum Warnerianum. The task of this "interpres" was to edit and translate the most important manuscripts in the collection. The first person to be appointed to this new function was Albert Schultens, first member of a family of Arabists which has left its mark on the 18th century study of Oriental languages in the Netherlands.

Albert Schultens, who was soon to be appointed to the chair of Arabic at Leyden, was the originator of the comparative study of the Semitic languages. He broke away from the generally accepted view that Hebrew was the mother tongue, and as a result of this new concept of the relation between the Semitic languages, the study of Arabic acquired great significance for the understanding of Hebrew, and by reason of this, for the study of the Old Testament.

In making a comparative study of languages, one has to compare the earliest forms of the language to which it is possible to return. This is why Schultens began to devote attention to ancient Arabic, pre-Islamic poetry, and also to the history of Arabia, before the appearance of Mohammed. For he was also interested in tracing a genealogical connection between the old Hebrew and the old Arab tribes.

It is true that Schultens' academic work in the field of Arabic was not confined to these investigations, yet one must agree with the criticism voiced by his contemporary, the great German Orientalist, J. J. Reiske, when he remarks that Arabic is entitled to a place of its own in oriental studies and that it could only benefit the study of this language, if it were no longer to be used as an auxiliary to theology. This is the turn things gradually took during the 18th century, and if the subjects treated in the writings of the third Schultens in the line of Arabists are compared with those treated by the first, it becomes abundantly clear that a great change came about during the 18th century in the scientific outlook of the European world.

The young Schultens who succeeded his father in 1778, at the age of 25, was a true child of his time. Like so many of his contemporaries, he was strongly influenced by the naturalistic praeromanticism of France, and since he was very well read in the classics and European literature and was possessed of a good literary taste, he found Arabic poetry and proverbs more to his liking than the linguistic or theological hairsplitting of his predecessors in the Semitic field. One of his lectures is concerned with the Arab spirit (De Ingenlo Arabum), a clear indication that interest had shifted from the revelation to nature and man. It was only then that Arabic could be studied solely on account of its own merits, and scholars prepared themselves for the work of enriching history, geography, mathematics, physics and medical science with all the wealth that could be obtained from the rich mines of Arabic literature. It is this endeavour which characterizes work in the field of Arabic studies in the Netherlands during the 19th century, and mention should be made in this connection of two names in particular, those of Dozy and De Goeje, both professors at Leyden.

Dozy's subjects were medieval and modern history, not Arabic. Yet he had already mastered the principles of this language at the time he sat for his university entrance examination. Professor Weyers, the Leyden Arabist at that time, introduced him to Arabic literature on Spain, which subject was to become Dozy's lifelong interest. Remarkably enough, both his first and his last book were dictionaries. The first was a dictionary of the names of Arabian articles of clothing, the last his well-known and still indispensable *Supplément aux Dictionnaires Arabes*. These, however, are merely the by-products of a life of study which was mainly devoted to the history of the Arabs in Spain. Dozy worked this field of scientific inquiry with great thoroughness, and in his *Histoire des Musulmans d'Espagne* he has provided us with a picture of this period which excels both by reason of its brilliant outline and by reason of an abundance of detail, all of which he collected independently from Arabic sources. As late as 1932 the French scholar, E. Lévy-Provencal, a great authority on Islam in Spain, published a new edition of Dozy's book, which had in the meantime become a classic. Greater tribute to the lasting value of Dozy's work is inconceivable.

Dozy also published some sources of knowledge on Spanish history. But this was not the immediate aim he had in view. He was concerned, first and foremost, with the working up of the data extracted from these sources into a comprehensive description of his subject. With De Goeje it is exactly the opposite. His main concern was to make available the chief Arabic writers on history and geography. His *Bibliotheca Geographorum Arabicorum*, which contains the work of the best geographers in eight bulky volumes, provides a convincing proof of his enormous knowledge of Arabic and of the high standards he set himself in his academic work.

An undertaking on an even grander scale was his edition of the works of the Arab historian, Tabari, which comprises 13 volumes with more than 8.000 pages of Arabic texts and 1500 pages of introductions, glossaries and indices. De Goeje did not, of course, produce this work entirely on his own. The fact alone that there was no complete text of Tabari's work available anywhere in the world made international co-operation essential. All the same, De Goeje was the driving force, whose perseverence, tact and learning succeeded in overcoming all obstacles and in producing in print this highly important work, important, among other things, for our knowledge of the earliest period of Islam.

De Goeje died in 1908, a year after his successor to the chair of Arabic at Leyden University, C. Snouck Hurgronje, had taken up his duties. Snouck Hurgronje was no young scholar, still at the beginning of his career. He had already given proof of his academic ability some decennia before, and after doing so had soon chosen a path of his own in the field of Oriental studies in the Netherlands. He had remarked that in the East civilization received its stamp from religion and that the Muslim world was by no means an exception to this rule. Nevertheless, in the whole of Europe the study of Islam had lagged farbehind the study of the Muslim secular sciences, and fallacies regarding this religion were still widespread. There was a lack of knowledge about the evolution the Muslim religious system had undergone during the course of the centuries, while most people had mistaken ideas about the significance of Islam in the lives of those professing this religion. One of the most neglected fields of study was that of Muslim law, the study of which nevertheless formed the basis of all Muslim academic education. The Oriental scholars of the West saw in this law nothing but barren casuistry, and this had warned them off research into the origins of the system which had grown out of the Koran and sacred traditions, and of the struggle with, and adaptation to, daily life. By undertaking research of this kind, Snouck Hurgronje became one of the founders of modern Islamic learning. After having studied the foundations and contents of Muslim law and publishing his findings in a number of critical writings, his ambition to see Muslim life from the inside as well, and to be able to inquire into the significance of the law in daily life drove him to Mecca, where he stayed for about six months. We are indebted to this sojourn of his in Mecca for a standard work on the history of the holy city and on social life there in the second half of the last century.

A wide field of work was still lying practically fallow, however, in the Dutch East Indies, with their tens of millions of Muslim inhabitants. Snouck Hurgronje was attracted by the idea of research into the effect of the religious law on the daily life of the people in this area on the periphery of Islam as well, while he was also interested in the important question as to how a colonial power could govern its Muslim subjects so as to smooth the way for them towards the new age, and, if possible, win their co-operation in the endeavour to realize the ideal of a universal civilization. Snouck Hurgronje served the Netherlands Indies Government in the capacity of advisor for seventeen years, without interruption. In this capacity he carried out research work of the very highest importance, much of which has been recorded in writings, while he became the shaper of Dutch policy towards Islam. His appointment at the University of Leyden accordingly meant far more than the appointment of a first-rate expert on the Arabian and Muslim world. It is certain that it was his mind and his understanding which largely determined the course Arabic and Islamic studies in the Netherlands were henceforth to follow. But in addition to this, with his unrivalled knowledge of Indonesia and the practical problems of government in that country, he has left his mark to a great degree on the training of civil servants for the Indies government service. His *Ambtelijke Adviezen* (Official Advice Memoranda), the publication of which is just beginning, afford an even more complete picture of his views on the requirements of an emancipating colonial policy than do his *Verspreide Geschriften* (Miscellaneous Writings).

Snouck Hurgronje's successor, A. J. Wensinck († 1939) was an eminent Semitist, active chiefly in the field of Semitic theology. He translated works by Christian Syrian mystics and his name is also associated with excellent studies on Mohammed at Medina, on the genesis of the Muslim creed, and on the "father of the church", al-Ghazali, whose ethical mysticism had such a stimulating influence on Muslim religious life. But it is chiefly two enterprises on the international scale which form a lasting witness to his learning, his initiative, his industry and his dedication to knowledge. I refer to the *Encyclopaedia of Islam* and the *Concordance of Collections of Arabic Traditions.*

The first initiative for the publication of the Encyclopaedia was taken in 1895, but the work had proceeded very slowly in the beginning. The first volume, under the editorship of Houtsma, a professor at the University of Utrecht, and a number of foreign scholars, did not appear until 1913. As a result of the first world war the work was held up until Wensinck took upon himself the task of completing the publication in 1924. In the following ten years he succeeded in getting the three remaining volumes published, and with the supplements, completed in 1938, the entire work was finished in a comparatively short time. From 1922 on, the publication had been transferred to the patronage of the Netherlands Royal Academy of Sciences and Letters, and it is this organization which has taken the initiative in publishing a second impression, which is now in preparation, J. Schacht, the present Leyden professor of Arabic, being a member of the editorial board.

The other great work which is being produced with the aid of international co-operation at Leyden is the *Concordance of Collections of Arabic Traditions*, the initiative for the publication of this work having been taken by Wensinck in 1916. In addition to the Koran, there is the Canonical Tradition, that is to say, the sayings attributed to Mohammed but actually originating from the community itself, as another basis of Islamic dogma and law. During the 9th century of the Christian era these sayings were arranged by various people in various ways in works most of which are of considerable size, with the result that even well-known traditions can often only be traced in them with difficulty, not to speak of the lesser-known sayings. This situation induced Wensinck to devise a guide through this maze, so as to render the Traditions as accessible as Flügels' Concordance had made the Koran. It took fourteen years for all the material to be indexed and entered on cards, a task which also required the work of many hands. The work of editing this material for the press and the printing process itself have not yet been completed, although steady progress is being made. Progress has been delayed by the premature death of Wensinck and of his successor in this task, the Utrecht professor Mensing; nevertheless the work has not been abandoned. It has met with lively interest in the Muslim world as well, and once the Concordance is ready, an instrument of the very first academic importance will have been created.

So far we have confined our remarks almost exclusively to Arabic Studies, which studies have the longest history behind them, a history in which the evolution of European culture is clearly reflected. This must not, however, lead the reader to think that the attention of Dutch Orientalists has been mainly confined to these studies. This is not even true as regards the Near and Middle East, and we have already mentioned the teaching of Persian and Turkish, both of which are taught at Utrecht as well as at Leyden. A very lively interest is also taken in the ancient history and the archaeology of the Near and Middle East, an interest far greater than one might think, if one judges by the comparatively small number of students the professors of Akkadian (Babylonian and Assyrian) and Egyptology attract. This entire field of study enjoys the advantage of being comparatively new and of there being a great deal of material still to be investigated, while interest is stimulated time and time again by lucky finds, which bring to the light remains of ancient cultures or reveal new linguistic, religious or historical material. Such research is followed with close attention, and where the possibility presents itself, young scholars also take part in archaeological campaigns organized by authorities abroad, unless they are fortunate enough to be able to institute their own research work in some country or other.

Another fortunate circumstance is that the archaeology of the Near and Middle East apparently has a strong attraction for Dutchmen versed in the classics or theology, so that in addition to students of the Old Testament, biblical and classical archaeologists, historians of law, religion and art and students of Semitic philology and linguistics, a large number of outsiders take an interest in this field of study. This interest is provided for most effectively by the Western Asiatic and Egyptian Association "Ex Oriente Lux", with branches in numerous towns, which organizes lectures in the winter months given by Dutch and foreign scholars, and also publishes *Jaarberichten* (Annual Reports), usually containing richly illustrated reports on new research undertakings and regular summaries of all that is going on in this field. The Association also publishes announcements and essays, dealing with individual studies of limited scope, and some years ago it started the publication of a Bulletin, entitled *Phoenix*, which appears twice a year and contains provisional announcements regarding new finds.

Another institution, closely connected with "Ex Oriente Lux", is the Netherlands Near East Institute, with its centre at Leyden, where it maintains a well-stocked library and also houses a collection of clay tablets, assembled by Professor Böhl, the Assyriologist. It has also made it its aim to set up branches in a number of towns in the Near East, which will offer Dutch research workers accommodation and facilities for study. The former dragoman's house, attached to the building which had earlier housed the Netherlands Embassy in Stamboul, has recently been taken over for this purpose. At the universities it is the Semitists (excluding, of course, the Arabists) and the Egyptologists who have had to take charge of all the work in this wide field. It should be mentioned that it is only at Leyden that separate chairs of Akkadian and Egyptian have been created. The Akkadian (Babylonian-Assyrian) language was first studied in the Netherlands among the historians of the religions, men, for instance, like C. P. Tiele († 1904), who in 1877 occupied the then recently created chair of the history of religions at Leyden. A beginning was made with Egyptology early in the 19th century. At the outset it was a "museum science"; in the Netherlands its founder was the archaeologist, Reuvens († 1853), who took the first steps to furnish an Egyptian Department in the National Antiquities Museum at Leyden. His work was taken over by Leemans, an archaeologist of great versatility and high reputation, who also took upon himself the work of completing the description of the Egyptian collection. The institution of a lecturership in Egyptology, which was not converted into a professorship until some considerable time later, did much to promote the study of the Egyptian language; the first lecturer was Boeser, a pupil of the well-known Berlin scholar Erman. Classical scholars and students of ancient Oriental law, also devote their interest to the Greek papyri, to the study of which the *Papyrologica Lugduna-Batava* bears witness. Mention remains to be made of the fact that the *Annual Egyptological Bibliography* is edited and published in Leyden, nine volumes, covering the period 1947–1956, having so far appeared.

It was not until the 19th century that Oriental studies in the Netherlands began to extend beyond the old field of the Semitic languages. Sanskrit was the first to be deemed worthy of a chair, universities in other countries having set up such a chair long before. As a matter of fact, the romantic enthusiasm with which the language and literature of ancient India had been greeted at the transition from the 18th to the 19th century in Europe had provided the impulse to undertake the study of entirely new sciences: Sanskrit philology, Indian religions and Indian archaeology, and the comparative study of the Indo-European languages. All these subjects had developed so rapidly that it became urgently necessary to clear a place for them at the universities. When this was finally done, in 1865, the long delay was largely remedied by the eminence of the man called upon to occupy the first chair of Sankrit in the Netherlands, Hendrik Kern († 1917). Kern was a man with a practically unequalled knowledge of languages. He was not only at home in Sanskrit and Pali literature, but had mastered the entire field of the Indo-European languages. His comparative study of languages also extended, however, to the Austronesian languages, while, though he did not actually initiate the study of old Javanese – Von Humboldt had already done that some decennia before – he took it considerably further. He was particularly interested in Buddhism as well. He wrote a *History of Buddhism in India* and a *Manual of Buddhism* (1896), which was translated into Japanese as late as 1913, and also edited translations and original text editions of Buddhist Sanskrit. His "Miscellaneous Writings" comprise no less than 17 volumes, divided up into 15 sections, according to the areas dealt with. From his school came Speyer, his successor at Leyden, who did excellent work in the field of Buddhist Sanskrit Literature; Caland, professor of Sanskrit at Utrecht, who occupied himself chiefly with the study of Vedic ritual, and the celebrated linguist, C. C. Uhlenbeck, first a professor of Sanskrit at Amsterdam, and later of Indo-European comparative linguistics at Leyden, and, besides that, a great authority on the languages of the Indians of North America and on the Basque language. One of Uhlenbeck's pupils was J. Ph. Vogel, who, after an honourable career with the Archaeological Service in India, was appointed as Speyer's successor at Leyden and taught Indian Archaeology there in addition to Sanskrit. Pali, the teaching of which originally formed part of the task of the Professor of Sanskrit, has been taught by separate teachers since.

Vogel was the founder of the Kern Institute, a body whose aim it is to foster the knowledge of Indian culture and especially of Indian archaeology. To this end the Institute has built up a well-stocked library, which is still expanding, and in particular collects photographic reproductions in the fields of archaeology and the history of art, not only of the Indo-Pakistan sub-continent, but of all countries through which the stream of Indian culture has flowed. In 1928 it made a beginning with the publication of the *Annual Bibliography of Indian Archaeology*, the 15th volume of which, covering the period 1940–1947, appeared in 1950. It is intended to issue a further volume shortly, this annual survey having proved an indispensable aid to study.

Of the many languages spoken in Indonesia, Malay, the lingua franca of this archipelago, attracted a certain amount of interest during the very first expeditions Dutchmen made to these parts. The merchants and sea-captains of the East Indian Company will certainly have brought manuscripts back with them to the home country, as curiosities. We know, in any case, that a few of these were not long in finding their way into the hands of the Leyden Orientalists and into the library there. In addition, the servants of the Company now and again included persons who had learned one or more Eastern languages, such as Persian, Hindustani, Malay or Javanese. (The first Hindustani grammar to be written by a European was the work of an official in the East Indian Company!) But there was still no proper interest in the home country, and even if one had wished to take advantage of the knowledge of these old colonials, it would have been a difficult business, since most of them died before returning to the fatherland. The study of Malay during the 17th and 18th centuries was pursued principally by clergymen sent out for the benefit of the native Christians in Indonesia. Some of them rendered a valuable service by translating the Bible into Malay.

It was not until after the Napoleonic period, when the Company's possessions had passed into the hands of the State and the example of Raffles – the author of the *History of Java* – had had a stimulating influence, that a change came about in the situation. In 1833 a Javanese grammar appeared; in 1847 a Javanese dictionary. A Javanese translation of the New Testament had already been printed in 1823 at Serampore, the first printed book to appear in that language! In the second half of the 19th century both Malay and Javanese were taught at the training colleges for officials destined for the Indonesian service. At the college at Delft instruction was given by Taco Roorda, the academic editor of the material that had been collected at Surakarta by Winter. His writings have been of the first importance for the study of Javanese.

During the whole of the second half of the 19th century the gifted linguist, Van der Tuuk († 1894), the founder of the comparative study of Indonesian languages, was at work in Indonesia. After having won his spurs with the compilation of a grammar and a dictionary of the Batak language spoken in Central Sumatra – in those days still inaccessible territory – and with numerous other linguistic contributions and critical writings, he turned to the study of Old Javanese and settled for the purpose on the island of Bali, where the literature of ancient Java has been preserved. The fruits of his labours have been laid down in his *magnum opus*, the Kawi-Balinese-Dutch dictionary.

In the same period the linguist, Dr. B. F. Matthes, delegate of the Netherlands Bible Society, was at work at Macassar. He published a great deal of work on the languages and ethnology of South Celebes.

In the Netherlands the Sanskrit scholar, Kern, occupied himself with the study of Old Javanese and the comparative study of the Indonesian languages, a logical extension of his field of study, when one considers that Sanskrit was the sacred language in the Java of olden times and that Old Javanese literature is a more or less faithful imitation of Indian models. Kern also gave close attention to Javanese epigraphy, which was beginning to attract increasing interest, and which has been of great assistance in reconstructing Javanese history.

The raising of the Indonesian languages to the status of university taught subjects in 1876 signified an important step forward. As a result of this a small corps of well-grounded specialists gradually became available, the majority of whom were employed either by the Netherlands Indian Government, as "linguistic officers", or by the Netherlands Bible Society, as "delegates". Senior among these scholars were Brandes and Jonker, while H. H. Juynboll, Adriani, Hazeu and Van Ronkel belonged to a rather younger generation and Stutterheim and Esser to the generation after the first world war.

Brandes developed within a few years into an eminent authority on the literature, ancient history and archaeology of Java. Jonker, who began and ended as a "Javanist", occupied himself with a penetrating study of the languages of some of the Lesser Sunda Isles. H. H. Juynboll remained in the Netherlands and won a name for himself with his precise catalogue of ethnographical writings in the National Ethnological Museum at Leyden. Adriani spent almost all his life in Central Celebes and besides publishing numerous papers on its languages and literatures, wrote, together with A. C. Kruyt, the standard work on this region. Hazeu, later professor of Javanese at Leyden University, was strongly attracted by the Javanese *wayang* and Javanese folklore. Van Ronkel is the great writer on Malay literature preserved in manuscript form. Esser, the editor of Adriani's posthumous writings, also continued his work on Celebes.

A few years after the death of Brandes in 1905, his archaeological work was continued by Krom, who was the organizer of the Archaeological Service in the Netherlands Indies, set up in 1913. Krom († 1945) was the author of two great works, one on Hindu-Javanese history and one on Hindu-Javanese art, in which he has arranged all the available material. Together with Van Erp, he also wrote the great Borobudur monograph in which the 1500 carved panels of the Borobudur are reproduced, together with an iconographical and architectural description of the entire building. He left Java in 1919 to occupy the first chair in the archaeology and ancient history of Indonesia at Leyden. His successor in the Archaeological Service was Bosch, who also succeeded him as professor at Leyden.

Stutterheim, who was head of the Archaeological Service for a few years prior to the second world war, died in 1942, during the Japanese occupation of Indonesia. An English edition of some of his writing was published in 1956.

An outstanding figure – now already half-legendary – was Van Stein Callenfels († 1938), who was trained as a civil servant, became a coffee planter and developed into a great authority on Javanese culture and archaeology, finally becoming the pioneer of pre-historical research in Indonesia and the surrounding areas.

The chairs in a number of Indonesian languages and in ancient history were not the only ones to be founded in the Netherlands for the purpose of Indonesian studies. The training of candidates for the civil service and the judicature in Indonesia requested quite a number of other university chairs of which we would mention two here, the chair of ethnology and that of Indonesian popular law (Adatrecht). With the first are associated the names of ethnologists who attained international reputations in their day for the contribution they made to the study of ethnology generally by their work in the Indonesian field, such names as G. A. Wilken (1847–1891) and A. W. Nieuwenhuis (1864–1953), while with J. P. B. de Josselin de Jong, who in his fieldwork in East Indonesia was active in both the ethnological and the linguistic sphere, Netherlands ethnology acquired a school of thought of its own, closely related to the French school of Durkheim, Mauss and Lévi-Strauss.

The orientalist and ethnologist, W. H. Rassers, attached to the National Museum of Ethnology, also exerted a strong influence on the moulding of this school of thought in Netherlands ethnology, with his very important studies in the field of ancient Javanese culture (concerning the Panji novel, the Javanese theatre and the Javanese kris). Among De Josselin de Jong's prominent pupils there are also those who have carried on this combination of oriental studies and ethnology, and one of the chairs of cultural anthropology in the University of Leyden is specially intended for the purpose of pursuing this trend.

The chair of popular law (Adatrecht was occupied for a long term of years by C. van Vollenhoven. Van Vollenhoven – that perpetual pride of the Leyden Academy – was the founder of the subject he taught. He performed the pioneering work in this new field of Indonesian studies in inimitable fashion, awakening the liveliest interest in it by his inspiring teaching. It is a matter of great satisfaction that an English translation of his nomumental masterpiece, *Het Adatrecht van Nederlandsch-Indië* (Adat Law in the Dutch East Indies) should now be in course of preparation.

Amateur-linguists and ethnographers have also made many and often important contributions to our knowledge of Indonesia. Numerous civil servants, officers and missionaries have taken up the pen, and although their works may sometimes display practical and methodical weaknesses, their value is not to be under-estimated. This stream of articles was absorbed mainly by two periodicals. In Indonesia there was the *Tijdschrift voor de Indische Taal-, Land- en Volkenkunde* (Journal of Indonesian Linguistics, Geography and Ethnology), published by the Batavia Society of Arts and Letters, set up at Batavia by Dutchmen in 1788, while in the Netherlands there was the *Bijdragen tot de Taal-, Land- en Volkenkunde van Ned.-Indië* (Contributions to the Linguistics, Geography and Ethnology of the Dutch East Indies), published by the Royal Institute of Linguistics, Geography and Ethnology, which was founded in 1851 in the Hague, where it maintains the best equipped library in existence on Indonesia and adjacent countries. The publication of the first-mentioned journal seems to have come to an end shortly after the second world war, after the appearance of more than 80 volumes. Of the other, the 113th volume is about to appear. Both the Batavia Society and the Royal Institute publish *Verhandelingen* (Essays) and also separate works. The Batavian Society also published a *Bibliotheca Javanica* (Javanese Library), in which series ten works appeared between the years 1930 and 1949, the majority prepared by Dutch authors.

To conclude this brief survey, in which much has had to be left without mention, a few remarks about Chinese and Japanese studies. We can only touch lightly on the earliest signs of academic interest in these countries and their languages. Mention can be made of Justus Heurnius's Chinese-Dutch-Latin dictionary, the author being a clergyman in the newly-founded town of Batavia, and Golius's essay on the Chinese calendar, issued as a supplement to the atlas of China prepared by the former missionary, Martinius and published by Blaeu, Golius having learnt Chinese from this missionary. The writings of Dutch ambassadors to, or representatives in, Eastern Asia also can only be mentioned in passing. Japanology did not get properly underway in the Netherlands until the first half of the 19th century, with the works published by Von Siebold, a German doctor in the Netherlands service, who lived for six years on Decima and collected a very great amount of data there on all kinds of subjects. His ethnographical collection forms one of the most valuable possessions of the National Ethnological Museum at Leyden; it is, in fact, the nucleus of its Far-Eastern collection. It was Von Siebold's assistant, J. J. Hoffmann, who became the first professor of Japanese in the Netherlands. This chair was not occupied continuously. It was filled once more in 1917 by M. W. de Visser, whose name is associated, among other things, with an excellent book on Ancient Buddhism in Japan (1935). De Visser's successor was J. Rahder, who since 1947 has been a professor at Yale University.

Korean is also being taught at the University of Leyden nowadays in addition to Japanese. The chair of Japanese which existed for some time at the University of Utrecht has been discontinued.

Hoffmann's pupil, Gustave Schlegel, was the first professor of Chinese in this country. Much of his published work has retained its value. In 1890, working together with the French Sinologist, Henri Cordier, he founded the well-known Sinological journal *T'oung Pao*. Schlegel's successor, De Groot († 1921), was chiefly interested in the history of Chinese religion. His main work is *The Religious Systems of China*, a large work in six volumes. At the end of his life, after he had exchanged the chair at Leyden for that at Berlin, he wrote his detailed study, *Chinesische Urkunden zur Geschichte Asiens* (Chinese Records as a Guide to the History of Asia).

In recent times it was J. J. L. Duyvendak († 1954) who caused the study of Chinese in the Netherlands to flourish once again, organizing it in excellent fashion. At the moment the centre of Sinological studies is the Sinological Institute at Leyden, which commenced its activities in 1930 and which has been expanding its library ever since. At the moment it comprises about 65.000 Chinese volumes, covering about 5.400 separate works, including works of the first importance, and also 5.000 books in Western languages in addition to a rich collection of microfilms of rare books in the library of Peking.

Chinese was also taught at the University of Utrecht between the years 1925 and 1956, though the chair of Chinese has lapsed since it was vacated by Professor Mullie.

The perusal of this brief survey of the evolution of Oriental studies in the Netherlands will probably have given the reader an idea of the large number of languages with which it has brought Western man into contact. But this is not all. Oriental studies in their way have made us realize that – as Duyvendak said – "in the infinite multitude of human individuals and the rich variegation of the different civilizations, Western man can only be seen as but one of many phenomena, and Western civilization as but one form of civilization besides many others . . . This amounts to a revolution in human thought as great as the invention of machines, and I should think that a science that is responsible for this more than for anything else, deserves a special place in the history of civilization".

G. W. J. Drewes [1]

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[1] Dr. Drewes is professor of "Islamic Institutions" at Leyden.

DUTCH INDUSTRIAL RESEARCH

In the Netherlands private industrial research made great strides very early, probably because the country's international links have given the Dutch nation a very cosmopolitan outlook which has led to Holland becoming the headquarters of many big international companies. This has resulted in the formation of large central research laboratories which send their discoveries and other results of their scientific work throughout the world. Besides many other products, the Netherlands thus exports brainwork too.

Nowadays research work can be done quickly and successfully only if enough people are working on a particular problem and if all the essential modern facilities are available. These requirements can be satisfied only by big companies prepared to invest enough money in research or by government or semi-government laboratories with substantial state aid. An attempt to distinguish between government and semi-government laboratories and private laboratories in the work they do will show the latter almost entirely serve their own industries, but at the same time make a vast contribution to scientific progress via the papers published by their workers. The government and semi-government laboratories in the Netherlands, largely grouped under the T.N.O. – the Central National Council for Applied Scientific Research [1]) – are not only making a very substantial contribution towards scientific progress, but also do a lot of research work for companies and industries at their request. What companies are these? Firstly, they are the smaller companies which cannot support big laboratories themselves with the highly specialised personnel nowadays needed for the various subjects that have to be dealt with. The results of such work are made available to the sponsor only. But the T.N.O. laboratories also undertake much research for big industrial companies which, though they possess large research laboratories, do not always have the people needed for the highly specialised subjects that may happen to crop up.

Especially where only short-term research is required, it does not always pay to engage specialised staff or train the necessary people. For such research it is better to approach a semi-government laboratory which has the necessary specialists and has had experience of the specific subject.

In addition to these two categories of bigger research laboratories, a number of companies have of course smaller laboratories working on their own particular subjects. With regard to the extent of their activities and the equipment they use, however, such work can more appropriately be described as development work. As a rule neither the time nor the facilities are available to carry out fundamental research. This does not mean that the work is less important – it is merely different.

Besides the many T.N.O. laboratories in this country, the big private industrial laboratories must be mentioned. Most of them work for big international concerns. Arranged alphabetically, these are as follows:

1) The Algemene Kunstzijde Unie (A.K.U.) laboratories at Arnhem and Utrecht, working on synthetic fibres.
2) The Organon laboratory at Oss, doing important work on pharmaceutics.
3) The Philips laboratories, the Physical Research Laboratory at Eindhoven being one of the oldest in the country. A wide range of research is covered in the fields of Philips products. The Philips-Roxane laboratory, working on pharmaceutical research, is also important.

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[1]) See the previous issue of this bulletin.

4) The Shell laboratory, Amsterdam, perhaps the biggest in the Netherlands, which works for the world-wide Royal Dutch organization on all the problems connected with petroleum and petroleum products. Royal Dutch also have laboratories in Delft.
5) The Staatsmijnen (State Coal Mines) Central Laboratory at Geleen, dealing with coal products and by-products. Although this laboratory cannot be said to belong to an international company, it is comparable in size to the laboratories of a world-wide organization.
6) The Unilever Research Laboratory at Vlaardingen where most of Unilever's work on edible fats is performed, while a smaller amount of research is carried out in regard to detergents.

These laboratories together emply a huge number of people, very many of them scientifically trained. Most of these graduates are trained at the Dutch universities (Amsterdam, Groningen, Leyden, Nijmegen, Utrecht) and the Technological Universities (Delft, Eindhoven). The laboratories also engage many graduates of other nationalities. The Dutchman, with his cosmopolitan outlook, does not object to this. There are in fact big advantages in employing foreigners who have been trained in totally different environment and have learned in their own universities to approach problems in a different way. Benefit can thus be derived from the natural bent of people from different countries.

In the Netherlands the graduate research worker usually has a number of assistants who are not university-trained. Hence the ratio in Dutch laboratories between the total number of employees and those who are university-trained is much higher (i.e. 5 or 6 to 1) than it is, say, in Britain or America.

The consequence is that the demand for technical assistants is particularly great. These assistants – known as analysts – are trained by means of special courses, provision being made for the more scientific and more practical sides of their training, or in some big laboratories to meet their own staff requirements. In their practical training analysts may make a choice of analytical methods suitable for various industries. To test their proficiency they can sit for a two-part examination by the Royal Dutch Chemical Society. The research laboratories also employ a large number of people who have been trained at Technical Colleges (Hogere Technische School).

In examining the nature of the work performed by Dutch research laboratories, we must bear in mind the typical outlook of the Dutch chemists and physicists, who still form a large part of the laboratory staffs. They have proved in practice to look more to fundamental research than is the case in Britain and America.

In the Netherlands a chemist who wishes to take up research and development work first wants to study the basic phenomena with which he is concerned, building up on these foundations the system of methods and products. More to the West, the same kind of outlook is of course also found among a good many British chemists but to a less extent than in the Netherlands. One reason may be the training of graduates up to a lower (i.e. bachelor) level, concentrating more on the practical aspects, than is customary in Holland. This applies still more to the United States of America, where there is more interest in developing new methods and new products based on existing data. This is also closely related to America's unprecedented economic progress. This factor is to be borne in mind in allocating research problems where big international companies have laboratories in various countries. The proper performance of research work is closely related to the interest which the worker has in it. If the problem can be adjusted to suit the graduate's aptitude, good results are more likely to be achieved.

As regards the organization of a research laboratory, the management usually consists of a number of persons. Their duties may be allocated between specifically theoretical aspects, for instance physico-chemical and organic-chemical or between more fundamental research on the one hand and development on the other.

Under the management, there are usually a number of group leaders, organising and promoting the work in their respective groups. Under them there are a number of section leaders co-operating with smaller teams of chemists and analysts. Everyone is thus enabled to devote his full attention to the problems on his programme.

With research work in its present stage of development, results are impossible unless large groups of graduate workers and assistants pursue the same object. Each of them can tackle the job from his personal view-point and the individual duties can be co-ordinated into joint work leading to the solution of the problem. This is why, when laboratory staffs are engaged, special attention is devoted to their suitability for team-work.

The subjects which the various people in the laboratory have to deal with are usually taken from a research programme drawn up by arrangement with the marketing and technical managements of the companies concerned. This programme must also be co-ordinated with those of the other research laboratories within the organization. A good research programme necessitates primarily personal contact with the company managements in order to ascertain the marketing requirements in regard to new products and the technical requirements in regard to improvement of methods.

The basic programme drawn up by the research management, and the outside problems therefore help in establishing a balanced research programme.

A research programme must not be changed too often. The research worker must have an opportunity of working on a specific problem for a fair length of time. I may of course be necessary to take up a new problem which occurs suddenly, while changed conditions may lead to another important problem being abandoned. Interim discussions will therefore always be needed to modify the research programme, but these modifications must not be allowed to become too great.

As regards the laboratory proper, we find that good equipment is the prime requirement. On the whole, Dutch research laboratories are well-equipped. The style of building is good, they are well looked after inside and there is a pleasant environment for the research workers. They are moreover provided with the most up-to-date apparatus. Foreign currency difficulties no longer exist and laboratories can purchase the most modern and expensive equipment from other countries if they wish. For instance, practically all laboratories have electron microscopes, X-Ray equipment, infra-red and ultra-violet spectrophotometers, mass spectographs and all the modern physical apparatus nowadays essential for a chemical laboratory. The laboratories concentrating more on physics, such as Philips, also have more specific equipment for their special purposes.

It is necessary for all big research laboratories to have pilot plants in addition to the departments engaged in chemical and physical research. Many discoveries are made during the small-scale work at the laboratory bench. But if this leads to success and the process has to be applied on a large scale, it is not advisable to go from the laboratory to the factory in one jump. Factory and laboratory conditions are often so different that there has to be an intermediate stage. For instance, big batches usually take longer to heat to a given temperature than small batches. Mixing with a mechanical agitator is often less intensive with a large quantity than with a small sample. If a liquid passes through an adsorbent layer, pressure relationships in small apparatus are quite different from those in a big unit. Therefore pilot plants are built in an endeavour to apply the small invention on a bigger scale. Only when this has succeeded, can an effort be made to apply the process on a factory scale. But even then it is often advisable to have an intermediate stage in between pilot plant and factory. These tests on a smaller-than-factory scale often obviate very great difficulties in manufacture and make possible large savings in building costs.

Under these circumstances, it should be possible with good scientific workers to obtain results worth reporting. In big international companies this is a primary condition. One of the advantages of a big organization is that know-how and discoveries from one part of the firm can be passed on to all concerned in the organization as a whole, so that they too may benefit from them. This however entails some difficulties in reporting, one of the main ones being that many chemists – sometimes even the best – regard this work as anything but the most pleasant aspect of their duties, with the result that their reports often need editing. The editors should also be graduates who can not only envisage the problems but at the same time have a special talent for good and clear reporting. The reports must state the main points of research, without degenerating into a mere summary of endless facts which, though correct, may not make for clarity as a whole.

Holland experiences the additional difficulty that Dutch is not a widely known language. Hence reports often have to be translated, firstly into a common language, for instance English, but frequently into other languages as well, for people in other countries who do not read English. Such reports could, of course, be written in English right away by the research workers, most of whom have a good knowledge of that language. But experience has shown that in very many cases the contents would not then reflect the actual results. People just do not express themselves as readily in a foreign language. It is thus better for them to prepare their reports in their own language, have them edited if necessary and then pass the final version on to specialized translators. The writer of the report can then easily go through this good translation himself to correct any technical errors that may have crept in.

Reporting the results and putting them into practice is thus the ultimate object of research. The report, the method, the product to which the successful research in Dutch laboratories has led, can now be launched on their journey through the world.

J. P. K. VAN DER STEUR [1]

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INTERNATIONAL COURSE IN HYDRAULIC ENGINEERING

On October 22, 1957 the International Course in Hydraulic Engineering was inaugurated in the presence of a large number of guests. Forty-four participants have been registered for the course, coming from the following countries: the Argentine, Belgium, Burma, Canada, China, Ecuador, Egypt, England, Finland, India, Iran, Israël, Mexico, New Zealand, Pakistan, Portugal, the United States of America, Venezuela and Yugoslavia.

The opening ceremony was performed by the Secretary-General of the Ministry of Public Works Mr. A. H. C. Gieben, who delivered the speech printed below.

In recent years, and particularly since the second world war, international exchange in the educational field has become an increasingly significant feature of international relations. The figures given by Unesco on this subject in its annual handbook, entitled "Study Abroad", have become truly impressive during the last few years.

The Netherlands are not, like the United States, England and France, a country likely to receive a natural influx of students from abroad. The language and the fact that our educational system is highly adapted to meet our own requirements form a barrier to foreign students. If, therefore, the Netherlands wish to participate in this form of international exchange – and they certainly do wish to do so – we have to remove that barrier. We have to adapt the instruction to the needs of foreign students and to consider carefully which subject would be the most suitable for the Netherlands to teach. Other countries, in a similar position to the Netherlands, doing the same, a natural, international division of labour is gradually coming into being, whereby each country makes contributions in those fields for which it is particularly fitted to do so. It is hardly necessary to stress that in this international division of tasks, the Netherlands are, as it were, predestined to pay special attention to hydraulic engineering.

You, gentlemen, the participants in this course, who have just arrived in the Netherlands, will already have seen something at least of the western region of our country and formed an impression of it. Nevertheless I suggest you have as yet no idea of the kind of country you have come to. Let me read you a quotation from the American historian, John Lothrop Motley, an outstanding expert on our national history. He gave the following description of this same region, as it appeared around the beginning of our own era:

"Three great rivers – the Rhine, the Meuse and the Scheld – had deposited their slime for ages among the dunes and sandbanks heaved up by the ocean around their mouths. A delta was thus formed, habitable at last for man. It was by nature a wide morass, in which oozy islands and savage forests were interspersed among lagoons and shallows; a district lying partly below the level of the ocean at its higher tides, subject to constant overflow from the rivers, and to frequent and terrible inundation by the sea."

And next, after a detailed description of these rivers:

"Such were the rivers which, with their numerous tributaries, coursed through the spongy land. Their frequent overflow, when forced back upon their currents by the stormy sea, rendered the country almost uninhabitable. Here, within a half-submerged territory, a race of wretched ichthyphagi dwelt upon "terpen", or mounds, which they had raised, like beavers, above the almost fluid soil."

It is clear that between then and now a task must have been fulfilled with which Dutchmen have become identified. This task comprised tidal and coastal engineering, land reclamation and river and navigation works.

1) *Tidal and coastal engineering* represent a true Dutch tradition, which begins with the mounds thrown up about the beginning of our era, continues with the building of dykes and dams along the smaller rivers during the Middle Ages, and which reaches its climax in the Delta Plan, that is to say, the plan for damming the Rivers Meuse and Rhine, a huge multi-purpose project, aimed at protection against storm floods and at improved fresh-water control and navigation.

2) *Land reclamation* has been carried on intensively by Dutchmen since the Middle Ages. This work was originally confined to land lying above sea-level, but after the invention of the windmill for pumping water, a large number of deep lakes were drained during the 16th and 17th centuries. The windmills were followed by the use of more mechanical equipment, first employed on a large scale in the last century for the purpose of draining the Haarlemmermeer, a wide area lying between Haarlem and Leyden, and reaching its zenith in the Zuyder Zee Reclamation Works, which are at present being carried out.

3) *Rivers and navigation works*, although not quite so much of a Dutch speciality, do nevertheless represent a field in which we, in this country of rivers and canals, have acquired experience which certainly deserves to be made known to others through the medium of an international course.

These three main subjects will together form the curriculum of the new course.

I should like to say a few words about the organization of this course, an organization which may seem at first sight to be rather complicated, but which, in actual fact, is only logical. As is well known, the Technological University at Delft, working in close co-operation with the Hydraulics Laboratory, is the scientific centre of teaching and research in hydraulic engineering in the Netherlands. It was only natural, therefore, to apply to the Technological University and to its scientific and academic resources in order to make this course possible.

An international course, however, is something more than a programme of study and scientific research. It is an undertaking which also involves propaganda in other countries, the recruitment of students, the reception of participants and the making of arrangements for their accommodation, and also a good deal of administrative work, including attention to the financial side. It is this task which the Netherlands Universities Foundation for International Co-operation, Nuffic for short, has taken upon itself, being the obvious organization to do this in view of its purpose and the experience it has gained in such matters.

Both these collaborating bodies have placed their confidence in the Board of Trustees, whose guests we are today. One of the members of this board is the representative of the Minister of Education, Arts and Sciences, who has been found willing, even in these times of government economizing, to grant us a not inconsiderable subsidy.

But it is the teaching staff who have to shoulder the greatest share of the responsibility. It is no easy task that they have taken upon themselves. Suffice it to say that it is not the custom of our hydraulic engineers to do things by halves.

I believe, Mr. Chairman, that this undertaking is a healthy one, because it springs from sound principles, because its organization has been well-considered, and because it is in the hands of people in whom we can have every confidence.

It is gratifying that even now, at the very beginning, so many persons have been interested in taking part in this course. May this first, hopeful beginning develop into an institution which will cause an interchange of knowledge and experience by which many countries and people will profit, including the Netherlands and Dutchmen themselves.

And with these words, I declare the international course in Hydraulic Engineering, 1957–1958, open.

CHRONICLE

INSTITUTIONS

Principal academic societies, institutes and museums in the field of oriental studies

Het Oosters Genootschap (Oriental Society), founded in 1920, with its headquarters at Leyden, is the centre for all Orientalists in the Netherlands. It organizes lectures and congresses and promotes international co-operation in this field.

Het Vooraziatisch-Egyptisch Genootschap (Western Asia and Egypt Society) "Ex Oriente Lux", founded in 1933, with its headquarters at Leyden, fosters in various ways the study of ancient civilizations in the Near East.

Het Oosters Instituut (Oriental Institute), founded in 1917, with its headquarters in the Snouck Hurgronje house at Leyden, has as its aim to promote the study of the East, in particular, Islam, the Semitic and the Indonesian Orient. It sets the publication of academic works on foot and stimulates co-operation between a number of larger and smaller institutions, institutes and societies in Leyden, affiliated to it and active in the field of Oriental studies in the wide sense of the word. Of these other institutes the following three are of particular importance:

Het Kern Instituut (Kern Institute), founded in 1925, with its seat in the College-gebouw (Lecture Halls), 33, 1e Binnenvestgracht. Aim: to promote the study of Indian archaeology. An extensive library and photographic records; publication of a bibliography, appearing at regular intervals. Sinologisch Instituut (Institute of Sinology), founded in 1930, with its seat in the College-gebouw (Lecture Halls), 33, 1e Binnenvestgracht. Aim: to promote the study of Chinese at the State University at Leyden. Extensive library of Chinese works.

Stichting Nederlandsch Archaeologisch-Philologisch Instituut voor het Nabije Oosten (Netherlands Institute of Near Eastern Archaeology and Philology), founded in 1939, 4a, Noordeindsplein. Promotes the study of the Ancient Near East. Extensive library, periodicals. Associated with the study of the Near East is the Afrika-Instituut Studie-centrum (Africa Institute Study Centre), founded in 1947, 8, Rapenburg. Extensive library, documents, publications.

The Koninklijk Instituut voor Taal-, Land- en Volkenkunde (Royal Institute of Linguistics, Geography and Ethnology), founded in 1851, has a very long tradition. Address: 14, Van Galenstraat, The Hague. It houses the largest library on Indonesia in the Netherlands, publishes periodicals, theses, separate works and volumes of Adat Law.

At Amsterdam there is the Koninklijk Instituut voor de Tropen (Royal Tropical Institute), housed at 63, Mauritskade and 2 and 2a, Linnaeusstraat, and founded in 1910. This is a very large institute of many-sided activity also working in the oriental field, with its museum, photographic records, library, publications and information service. Institutes of university education in the Near East of modern times and the history and sociology of South-East Asia are also housed in its premises. Further university and other institutes concerned with oriental studies can be mentioned in respect of various university towns in the Netherlands. Prominent among these are the Instituut voor Oosterse en Slavische Talen (Institute of Eastern and Slav Languages), 2, Nobelstraat, Utrecht, and the Instituut voor Volkenkunde (Ethnological Institute) – bibliographical records, 29, Drift, Utrecht.

In this same connection mention may also be made of the Sanskrit Institute and the Semitic Study Room at Groningen and the Semitica Institute at Nymegen.

As regards museums on oriental subjects, first mention must be made of the Rijksmuseum voor Volkenkunde (National Museum of Ethnology) – art, archaeology and ethnography of Indonesia in particular, but also of Japan, Tibet, China and India, and the Rijksmuseum van Oudheden (National Museum of Antiquities) – including, in the main, the celebrated Egyptian collection – both at Leyden. In addition there are: the Museum van Aziatische Kunst (Museum of Asiatic Art) in the Rijksmuseum (National Museum), the extensive Oriental Section of the museum of the Royal Tropical Institute (for Indonesia especially) and the Oriental Section of the Allard Pierson Archaeological Museum, all three at Amsterdam, and the Oriental Section of the Museum voor Land- en Volkenkunde (Geographical and Ethnological Museum) at Rotterdam.

Information on other museums with collections of Oriental art, ceramics in particular, and of ethnographical material can be obtained from the book on the Netherlands museums, entitled "De Nederlandse Musea", and published by the Ministry of Education, Arts and Sciences. The principal collection of Oriental manuscripts is to be found in the library of the University of Leyden.

International Training Centre for Aerial Survey

The I.T.C. has recently moved into its new premises (Kanaalweg 3, Delft). It is a building in Delft of eight storeys, the first four being designed to house the centre's unique and costly collection of photogrammetrical survey equipment and its laboratories. Above these four "technical" storeys are four residential floors with fifty rooms to accommodate the same number of residential students from abroad.

A complete kitchen with dining hall and laundry makes up the rest of the domestic quarters of this section of the institute. All this together forms the Delft I.T.C. Students' House.

The building is in the modern style and very attractively arranged; it is also very conveniently situated, lying as it does between the Geodetic Institute of the Technological University and two important production enterprises in the surveying field, viz., the K.L.M. Aerocarto Company and the Geometric Department of the State Water Board. Details of the courses offered by the I.T.C. will be found in the "Institutes" section of this Bulletin. That the importance of this centre for aerial survey, under the direction of Professor Schermerhorn, is recognized beyond the Netherlands' frontiers is apparent from the increasing number of pupils coming from practically all countries on this side of the Iron Curtain (at the moment there are fifty of them), and also from the fact that the Headquarters and Executive Committee of the Organization of the six European countries working together within the framework of the O.E.E.C. on experimental photogrammetrical research are housed in the I.T.C.

The National Institute of Veterinary Research, Amsterdam

Home Activities

The National Institute of Veterinary Research was founded in 1930 and began its work at Rotterdam in 1932. Its main purpose was to study foot-and-mouth disease, this highly infectious disease being considered as one of the most dangerous to livestock in many parts of the world.

As the laboratory facilities in Rotterdam were very limited, only small-scale experiments with cattle were possible. Nevertheless, the Institute was successful in propagating the causal agent, a virus, in pieces of fetal bovine, ovine and porcine skin. This was the first foot-and-mouth disease virus, fully virulent for cattle and antigenic, to be artificially cultivated. It meant that the foundations for the future culture of vaccine "in vitro" had been laid down.

In 1941 the Institute moved to Amsterdam, into a small, but well-equipped new laboratory, and here research on the cultivation of the foot-and-mouth disease virus was resumed after the war, in 1945. It was felt that the artificially-cultivated virus would provide the cheapest answer to the problem of controlling the disease.

Meanwhile a vaccine against the disease had been developed by German scientists, combining Danish and French discoveries. This vaccine, however, had been produced with the aid of virus collected from living cattle which had been artificially infected 24 hours before slaughter. For a brief period the Institute also used virus obtained from animals infected in this way for the preparation of vaccine, though its research work remained focussed on artificial mass cultivation.

In 1946 it was possible to report the successful large-scale cultivation of foot-and-mouth disease virus. Instead of the fetal bovine skin, the epithelial tissue of the bovine tongue mucous membrane was used, tongues being far more readily available than feti. The Institute developed a practical method of large-scale cultivation of the virus, and it proved possible to use this virus for the production of an anti-foot-and-mouth disease vaccine. At present almost the entire cattle herd in the Netherlands is vaccinated annually with this vaccine.

The Minister of Agriculture decided that the Institute's activities should be extended to cover other animal viral diseases. A beginning was accordingly made with the study of swine-fever with the result that the causal virus of this disease was also cultivated on a large scale "in vitro". The spleen tissue of normal swine was used as a cellular medium for the purpose. The mass cultivation of this virus opens up the possibility of preparing a vaccine against this highly lethal disease as well.

As the greater part of the Institute's facilities are used for investigations into foot-and-mouth disease, it has only been possible to devote attention to a small number of other problems, the study of which requires little space in the laboratory and stables. The study of the cultivation "in vitro" of vaccinia virus, begun in 1935, has now been resumed, with the aid of a subsidy from the T.N.O. Sanitary Organization. This virus has also been cultivated artificially, using fetal bovine skin to begin with, and later on, epithelial tissue as well, from the bovine tongue mucosa. This vaccinia virus has the considerable advantage of being bacteriologically sterile and it can be used immediately in human and animal vaccination against smallpox or vaccinia.

The virus of "infectious pustular dermatitis" in sheep, known, in human medicine, as "Orf", a disease transmissible to men, has also been cultivated "in vitro" for the first time. A vaccine is to be prepared with this virus too.

A grant from the T.N.O. Sanitary Organization has also enabled experiments on the cultivation of poliomyelitis virus to be conducted, which experiments are still proceeding.

On account of the impossibility of carrying out the entire programme of virus research in the present premises, it has been decided to build a new institute, the plans for which are at present being drawn up.

International Activities

The international activities of the Institute are closely related to its national work. The large-scale artificial cultivation of the foot-and-mouth disease virus has attracted many visitors from all over the world.

Since 1948 there has been uninterrupted co-operation with scientists sent by the Bureau of Animal Industry, the Federal Veterinary Service of the United States. Colleagues from several European countries and from other parts of the world as well have also spent considerable periods working at the Institute, with the purpose of studying methods of virus cultivation. (One Egyptian guest prepared his thesis at the Institute and obtained his doctor's degree at the University of Utrecht.)

The United Nations Food and Agriculture Organization has displayed interest in the Institute's work, and especially in its work on the large-scale cultivation of the foot-and-mouth disease virus. Convinced as this organization is of the necessity of applying this method in the campaign against the disease, it lends many countries financial aid and advice in establishing institutes for the preparation of vaccine, on condition that live cattle are not infected for the purpose of producing the virus.

The F.A.O. very often invites personnel of the Institute to act as advisers in countries where the establishment of an institute for the production of vaccine is being considered. Such advice covers the selection of the building site, the lay-out and the equipment. The F.A.O. also grants fellowships to many veterinarians from such countries for a stay in the Institute at Amsterdam. Such persons are given every opportunity to acquaint themselves with all the Institute's activities, so that they can direct vaccine production in their own country later on.

When a new vaccine production institute has been built and is ready to start work, one or two members of our staff go to the institute, at the request of the F.A.O., to assist the local personnel during the initial stages.

The Institute also exports vaccine to other countries.

It is hoped that with international co-operation one of the most dreaded animal diseases, one that can inflict untold damage on the world's food supply, can be effectively controlled.

H. S. Frenkel [1])

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[1]) Dr. Frenkel is director of the State Veterinary Research Institute, Grote Kattenburgerstraat 7, Amsterdam.

INTERNATIONAL COURSES

(For basic data on each course, see last pages of this Bulletin)

Institute of Social Studies

Current and forthcoming activities

The Institute of Social Studies has just rounded off its first five years' work. In the autumn of 1957 it embarked on its sixth academic year with a consolidated programme of courses, which will continue through the year 1958. The dates of these courses do not coincide – they overlap chronologically – and this makes it necessary to outline the activities in 1958 in relation to those of the foregoing and succeeding year. The Institute's courses are not only interrelated in time, but also in content. They are all given at the postgraduate level in the field of the social sciences, with emphasis on problems of economic development and social change. This system of a continuous flow of interrelated courses has several advantages. The training facilities of the Institute are evenly utilized; the scientific achievements of one group can be carried over to the next group; and there is close co-operation between the various social sciences, which prevents over specialization and calls for adequate insight into subjects other than those in which the participants have graduated.

During 1958 no less than seven courses will commence, finish or continue. The Institute's main project, the *Two-year Courses in the Social Sciences*, will be composed of three groups. One is the 1956–1958 course that will finish its work on April 3, 1958. The second group started work in September 1957 and will finish early in 1959. The third group will begin on September 17, 1958, and continue up to the first months of 1960. These courses deal with the theme of economic development and social change, in its broadest sense. Participants are Social Science graduates, such as economists, sociologists, and political scientists. Case study seminars allow participants to conduct applied research. For the 1956–1958 group, the case studies will be concerned with the development of Mexico and Turkey and for the 1957–1959 group with that of Jamaica and Ceylon. Each participant finishes his work by the writing of a thesis. Successful candidates are awarded the degree of Master of Social Sciences.

The Six-Month Course in Social Welfare Policy, begun in September 1957, will finish on April 3, 1958 and a new course will start on September 17, 1958. Each course will consist of two periods of classes and seminars, with a period for field observations between. The main attention in the course is devoted to social work and social action in low-income countries.

The Six-Month Course in Public Administration, to be held from January to July 1958, will cover the following subjects: the scope and field of public administration, organization and planning, financial administration, the scientific tools of public administration. There will also be seminars on development projects and on the rôle of the expert.

The Six-Month Course in Economic Planning and National Accounting, also scheduled to run from January to July 1958, provides, in addition to classes in the various subjects concerned, case studies of long-term planning in the Netherlands, India, the U.S.S.R. and Poland.

In all three six-month courses mentioned above, considerable attention will be devoted to the individual research projects on which each participant will concentrate, under the supervision of a faculty member. A diploma will be awarded to those who complete the courses successfully.

The teaching body for all the Institute's courses is composed of

1. members of the Institute's permanent staff,
2. university professors and other experts in the Netherlands,
3. guest professors from abroad.

The focal point of research and documentation is the Institute's Library, in which the course results are also systematically filed. Scientific contacts are further stimulated by the residential system of the Institute. It is expected that in 1958 (for the first time) the number of students will exceed the number of beds available within the Institute's hall of residence. A number of students – especially the senior students who have become acclimatized to Holland – will then be accommodated in private houses. A factor important to the success of the Institute is the international composition of its body of students. The 200 students registered between 1952 and 1957 included thirty-six different nationalities. In view of the special attention the Institute pays to problems of economic and social development, the largest number of students have so far come from Southern Asia and from the Middle East. It is hoped, however, that during 1958 other areas, such as Southern Europe, Africa and America, will also be well represented.

International Training Centre for Aerial Survey

Information: The Dean, International Training Centre for Aerial Survey, 3, Kanaalweg, Delft.

The International Training Centre for Aerial Survey at Delft, popularly known as the "Delft I.T.C.", was established by the Technological University at Delft and the Agricultural University at Wageningen, which universities are both represented on the Board of Governors. It started its activities in 1951 and aims at promoting the science of aerial survey and providing training at the university level in its various applications.

It is not surprising that in many modern technical and economical development schemes aerial photography should play an important rôle, because it provides many of the necessary basic data for such projects.

In the past years, the application of air photography has not been developed for cartographic purposes only; the interpretation of the photographic image for the inventarization of natural resources and for economic planning also is gradually increasing in importance.

The structure and organization of the I.T.C. are based on the following considerations:

1. International technical assistance is effective only if the manpower of a country is developed to such an extent that the country in question is able to carry out the necessary work itself;
2. The trend to accelerate such development by sending students abroad for a full university education does not sufficiently meet the needs of to-day;

3. Students who stay abroad for a long time sometimes become strangers to their own country, which is particularly true if there is a large difference in the standard of living. This can be avoided by a general professional education in their home country, followed by specialized training abroad of about one year's duration and preferably preceded by some experience at home;
4. Such training should be very thorough and fully adapted to the individual needs of every student, according to his preliminary education and to his future task;
5. A special system of this kind does not fit into the framework of a traditional university education, but can be effected only in a specialized institute, the organization and equipment of which enable maximum results to be achieved. Accordingly, lectures and instruction must be given in one or more world languages;
6. The students should live together in an international environment, which condition will be fulfilled if this institute is residential.

For six years now the I.T.C. has been working in accordance with these principles. In this period a mere handful of students has increased to a regular flow; the staff has been trebled and a new building constructed, in which both institute and students are housed. Study is divided into five different sections according to the various applications of air photography:

1. *Photogrammetry*, including cartography, topography and theory of errors.
2. *Photogeology*.
3. Use of air photographs for *soil survey* and other agricultural purposes.
4. The same for *forestry* and other sylvicultural purposes.
5. Aerial photography and survey navigation.

Regular courses in photogrammetry are organized for two different categories: those who desire to be trained as highly qualified operators and those who wish to obtain complete instruction, training and practical experience, as required for future members of scientific staffs. Consequently, two different degrees are awarded after the prescribed examinations have been passed: I.T.C. *Photogrammetric Technician* and I.T.C. *Photogrammetric Engineer*. For those who have obtained an adequate Bachelor's degree elsewhere, an I.T.C. Photogrammetric Engineer Degree is equivalent to a Master's Degree in Photogrammetry. The course for the first degree takes about one year, the course for the second, for those who start without any special knowledge in this field, from 15 to 24 months. Students who wish to specialize in aerial photography may obtain the degree of I.T.C. *Photographic Engineer*, while in the other sections a *Certificate of Qualification* can be awarded. Naturally, it is also possible to study special subjects or to take a refresher course. Of the different sections, photogrammetry is most in favour, but the younger interpretation techniques are gradually attracting more attention. In this respect mention may be made of a method of photo-analysis developed by the I.T.C.'s section of soil survey and already being applied in various countries. Scientific research is carried out on an international basis; the organization of the six European countries, working closely together in the field of experimental photogrammetric research within the framework of the O.E.E.C., has its headquarters in the I.T.C. In addition to training and research work, members of the I.T.C. staff render services as experts and consulting engineers. Facilities also exist for undertaking agricultural or sylvicultural surveys.

Courses at the Leyden Institute of Oriental Studies

Young people destined for employment in the countries of the East or other "non-Western" parts of the world should undergo adequate preparatory training. In the Netherlands choice was limited between university study extending over several years and occasional short courses established by various institutes and private companies. Missionary courses were of course provided for by Protestant and Roman-Catholic missionary organizations.

Few students could afford the time or had the opportunity to follow the university courses. But in the short courses there was not sufficient time to acquire an adequate knowledge of the language and the people with whom the trainees would have to deal. Still, a knowledge of the language was of particular importance for immediate use and as a basis for further knowledge.

The Leyden Institute of Oriental Studies, therefore, is endeavouring to remedy this by the institution of special courses in which language study forms an important part but which are not confined to language alone. The courses last for three months (12 weeks) or seven months, the seven-month course being intended as a continuation of the three-month course with another four months of study. English is the medium of instruction.

The language teaching aims at enabling students to acquire the ability to understand and to speak the language concerned, and, where possible, to acquire proficiency in writing it. Twelve to fifteen of the twenty hours of instruction per week are devoted to this purpose. The idea is that historical and theoretical explanations of the language should be avoided, unless strictly necessary for the aim in view, and that instead of hasty treatment of a wide range of subjects, the students should be made familiar with a limited amount of carefully selected material. Exercises to acquire fluency in speaking the language will be led by tutors from the country concerned.

In addition to the language teaching, four hours a week are devoted to lectures on country and people, religions, morals and customs, manners; on various aspects (social, political, etc.,) of modern trends in the present-day situation in the area concerned, and to an interpretation of present events in the light of the far-reaching transculturation process taking place all over the world. The other hours are devoted to special subjects, films and visits to collections and museums.

The seven-month course connects up with the three-month course. The work done during the three-month course is consolidated and expanded in the first place, while an opportunity is provided of studying in greater detail all manner of subjects which could only be touched on briefly during the shorter course. So far courses have been arranged for four areas, viz., Indonesia and Malaya, the Arab countries, Japan and China. Various professors and other members of the academic staff of the University of Leyden, together with the directors and staff of other academic institutes in the city lend their co-operation on the teaching side. The courses are open to persons in the possession of a secondary school leaving certificate, or persons who, in the opinion of the directors of the course, have reached an equivalent standard of education.

Study of the general plan of the courses – which is available upon request – will show that they amount to far more than a general survey. A careful selection of subjects, the arrangement of the time-table and the use of tape-recorders and the like make it possible to complete an initial course in three months. A continuation course of about four months may be taken by students desiring further tuition.

These courses will also be of interest to persons who have already worked for some time in one of the areas concerned, should they feel the need for the training provided here. Students of any nationality will be admitted to follow the courses, or part of them, provided their knowledge of English is adequate.

Courses provided:

subjects:

I. Indonesia and Malaya
Director of Studies: Prof. A. Teeuw.
14, Thorbeckestraat, Leyden.

II. The Arab Countries
Director of Studies: Prof. G. W. J. Drewes,
109, Zoeterwoudse Singel, Leyden.

III. Japan
Director of Studies: Dr. F. Vos,
96, Rapenburg, Leyden.

IV. China
Director of Studies: Prof. A. F. P. Hulsewé,
67, Wasstraat, Leyden.

Duration of the course:

Three months (12 weeks of about 20 hours per week)	Fee: HFl. 200
Seven months	Fee: HFl. 350

Commencing date:

Every year in October.

Address:

The Secretary, The Institute of Oriental Studies, 61, Rapenburg, Leyden.

International Agricultural Study Centre at Wageningen

International Meeting on Methods and Programme Planning in Agricultural and Home Economics Extension.

The 1958 course will be the sixth successive annual course on the subjects mentioned. It will be held at Wageningen from July 7–31, 1958. During the last five years, more than 500 agricultural advisory officers have participated in these courses with the object of enlarging their knowledge of efficient extension work. In addition to the subjects discussed in previous years, a considerable part of the 1958 programme will be devoted to rural home economics. This young branch of applied science is rapidly outgrowing its rather confined prewar limits, and it is felt that in many countries a large field, at present lying fallow, may benefit from the action taken and the experience already gained in other countries.

Experts from various countries and staff of the United Nations Food and Agriculture Organization will be invited to give lectures. Ample time will be provided for discussion, through which the experiences and views gathered in different countries can be exchanged.

Demonstrations, visits to agricultural institutes and field trips, covering the larger part of the Netherlands, form an integral part of the programme. The inclusion of a decentralized three-day field demonstration period under the personal guidence of District Advisory Officers is a special feature, enabling participants to study and discuss local problems on the spot.

The provisional programme includes the following subjects:

A (for both rural extension workers and home economists): principles of rural extension; training of extension workers; personal approach in agricultural and home economics extension; audio-visual aids; exhibitions in rural extension; mass methods; community organizations; rural youth work; co-operation in rural extension and home economics; international co-operation in this field; economic aspects of agricultural and home economics extension; social and cultural aspects; extension programme building; annual plan of work; extension programme at the regional level; agricultural and home economics extension programmes at the national level; rural extension in relation to rural development; evaluation or rural extension.

B (separate agricultural extension methods): demonstrations in agricultural extension; co-operation of agricultural extension and commercial firms; methods of farm economics extension; farm productivity campaigns; relation of vocational training and research in agriculture to agricultural extension.

C (separate home economics extension methods): demonstrations in home economics extension; co-operation of home economics extension and commercial firms; methods of home management extension; home economics extension.

Attendance of lectures under Group A is recommended to all participants in the course. Attendance of lectures under Groups B and C, however, is left to the personal preference of the trainees. Those not interested in Group B may participate in a field demonstration period with regard to home economics, while those not interested in Group C may partake in the field demonstration in one of the Districts of the Netherlands Agricultural Advisory Service.

International Seminar on Land Development for Agricultural Uses.

This course will last from August 25 to September 12, 1958. The programme has been made up of three parts, the first two periods covering about one week. Subjects discussed during the first week will include: aims and objectives of land development; physical conditions, including soil classification; land classification according to present land use, farming systems, types of holdings, demographic factors limiting land development; sociological and mental factors affecting land development; economic factors affecting land development; concept of the economic holding; selection of settlers; determination of priorities of project areas; a number of case studies in connection with the subjects mentioned above.

The second week will be devoted to field trips to and discussion of three typical projects of land development in the Netherlands, viz., lowland areas ("komgronden") with heavy river-clay soils, lying alongside and between the branches of the River Rhine; the island of Schouwen-Duiveland, situated in the Delta region which was flooded in 1953 and has since been rehabilitated; the North-East Polder, being one of the polders of the Zuyder Zee reclamation project.

Subjects to be discussed during the remaining days include: discussion of points concerning field trip; financial problems in connection with development projects; technical and organizational aspects; adjustment problem in regard to changed conditions brought about by land development; evaluation of the Seminar.

Lectures will be given either in English, French or German, but by making use of a system of simultaneous interpretation, participants will be enabled to follow the lectures and take part in discussions in any one of the three languages.

Prospective participants are invited to apply to the Director of the International Agricultural Study Centre, 1, Generaal Foulkesweg, Wageningen.

INTERNATIONAL SCIENTIFIC MEETINGS

Commemoration of the 150th anniversary of the Foundation of the Royal Netherlands Academy of Sciences and Letters

Place: Royal Tropical Institute, 63, Mauritskade, Amsterdam.

Date: 6th–9th May, 1958.

Information: Royal Netherlands Academy of Sciences and Letters, 29, Kloveniersburgwal, Amsterdam. Executive Secretary and Secretary of the Jubilee Committee: M. E. 't Hart.

PROGRAMME:

May 6th: 3.15 p.m. Inaugural speech by the President of the Academy; presentation of addresses by representatives of foreign academies and other learned societies; reception.

May 7th: 10.30 a.m. Lecture by Professor H. Dooyeweerd on progressive and reactionary movements in history; presentation of the Science Department's Lorentz Medal to Professor Lars Onsager of Yale University, U.S.A., followed by a reception during which there will been opportunity to tender congratulations to the medallist;
1 p.m. Visit of members of the Academy and foreign guests to the Academy's building, the "Trippenhuis", a historical monument dating from the 17th century;
8.30 p.m. Reception of the members of the Academy and foreign guests by the Municipality of Amsterdam in the Municipal Museum.

May 8th: Excursions to the National Park, "De Hoge Veluwe", departure from the Krasnapolsky Hotel at 10 a.m.
8.15 p.m. Concert in the "Concertgebouw", Van Baerlestraat, for the members of the Academy and guests.

May 9th: 9.30 a.m. On this day papers will be read by Professors G. E. Langemeyer, H.B.G. Casimir, H. C. Rümke, L. J. Rogier, A. Heyting and H. W. Julius on the general subject of "Certainty in Science". In the evening the Netherlands Government will offer a banquet in the Krasnapolsky Hotel to the members of the Academy, representatives of foreign academies and invited authorities.

European Academy of Allergy

2nd Preliminary Programme

OCCUPATIONAL ALLERGY

Course and Symposium

14–24 May, 1958 at The Hague.

Organized by the Netherlands Society of Allergy, in co-operation with
The Netherlands Institute of Preventive Medicine and
The Netherlands Society of Occupational Medicine.

Topics

1ST TOPIC

Allergy and allergic symptoms
Allergic examination

2ND TOPIC

Occupational allergy
a. Bulbs and flowers
b. Tomatoes and vegetables
c. Bakery
d. Chemical industry
e. Tobacco industry
f. Wool and textile industry
g. Farmers and veterinarians
h. Doctors, nurses and chemists
i. Cement, turpentine etc.
j. Pharmaceutical industry
k. Cosmetics
l. Printers
m. House
n. Mines
o. Other occupations.

3RD TOPIC

Anti-allergic therapy
Preventive measures
Social consequences

Speakers already known

Belgium	Dr. J. Jamar;
Denmark	Prof. Dr. P. Bonnevie, Dr. P. H. Nexmand;
Finland	Dr. Beikko Pirilä;
France	Dr. E. Sidi, Dr. J. Turiaf;
Germany	Prof. Dr. K. Hansen, Dr. H. Michel;
Great Britain	Dr. F. F. Hellier, Dr. K. Maunsell, Dr. D. A. Williams;
Italy	Prof. P. Di Mattei, Prof. Dr. U. Serafini;
Norway	Dr. O. Andrup;
Spain	Dr. J. F. Farrerons-Co, Dr. R. Surinyach;
Sweden	Prof. Dr. S. Hellerström, Dr. P. Kallos, Prof. Dr. A. Nilzen;
Switzerland	Prof. Jadassohn;
Netherlands	Prof. Dr. H. A. E. van Dishoeck, Dr. J. Gerritsen, Prof. Dr. J. W. Mali, Dr. K. E. Malten, Dr. F. A. Nelemans, Prof. Dr. N.G.M. Orie, Dr. W. J. Quarles van Ufford, Prof. Dr. M. Ruiter, Dr. P. J. v. d. Werff.

Chairmen of the Meetings

Prof. Dr. H. A. E. van Dishoeck, Leyden,
Prof. Dr. J. H. W. Mali, Nymegen,
Dr. D. A. Williams, Cardiff.

INFORMATION

a. In the morning there will be the lectures, communications, demonstrations and discussions in small meetings. In the afternoon excursions will be made to several Dutch factories.

b. A Ladies Committee will arrange for the reception and entertainment of ladies accompanying the participants.

c. The text of the lectures will be published by Stenfert Kroese in extenso before the symposium opens. The communications and discussions will be published in Acta Allergologica.

d. For all information apply to:
17, Emmalaan, Utrecht, or the Town Hall, The Hague.

Organizing Committee

Dr. J. Jongh, Utrecht,
Dr. K. E. Malten, Leyden,
Dr. W. J. Quarles van Ufford,
17, Emmalaan, Utrecht,
Dr. J. L. Engelenburg, The Hague.

4th International Congress on Carboniferous Stratigraphy and Geology

In connection with which will be held the 1st International Meeting on Coal Petrology.

Organized under the auspices of the Board of the Geological Foundation.

Place: Heerlen, The Netherlands.

Date: Congress: Sept. 15–20, 1958.
Meeting: Sept. 10–13, 1958.

Information: Secretary of the 4th Int. Congress on Carboniferous Stratigraphy and Geology,
Akerstraat 86–88, Heerlen.

Programme:

At the moment only a provisional programme can be indicated. This includes:

Monday 15 Sept.
a.m. Opening Session.
p.m. Colloquim on Stratigraphic Nomenclature.

Tuesday 16 Sept.

a.m. General Lectures on:
Stratigraphy and Paleobotany,
Stratigraphy and Paleozoology,
Stratigraphy and Paleogeography.
Carboniferous Palynology (Results of meeting on Coal Petrology).

p.m. Presentation of papers (in two series).

Wednesday 17 Sept.

a.m. General Lectures on:
Sedimentology of Carboniferous Rocks,
Coal Genesis,
Sedimentological Phenomena regarding Carboniferous Rivers.

p.m. Presentation of Papers (in two series).

Thursday 18 Sept.

a.m. General Lectures on:
Applied Geology in general,
Applied Geology in recent exploration in the Netherlands,
Coal Petrology (Results of Meeting on Coal Petrology).

p.m. Presentation of Papers (2 series).

Friday 19 Sept.

a.m. Possibly some further General Lectures. Remaining time and afternoon session reserved for Colloquium on Stratigraphic Nomenclature.

Saturday 20 Sept.
Final Session.

Excursions:

Prior to congress:
2 day exc. Belgian Carboniferous,
3 day exc. German Carboniferous,
After the congress:
2 day exc. Tertiary lignites of West Germany,
2 day exc. Quaternary deposits (peatbogs) in the Netherlands,

Meeting of the 1st Commission of the International Institute of Refrigeration

From June 17–21, 1958 the 1st commission of the Institute of Refrigeration will organize a meeting at the Technological University at Delft. The chairman of this commission and also of the organizing committee of the meeting is Prof. Dr. A. van Itterbeek, the other members of the committee being Prof. Dr. M. J. Druyvesteyn, Prof. Dr. R. Kroning, Prof. Dr. J. A. Prins, Prof. Dr. L. Váhl, Prof. Dr. B. S. Blaisse and Drs. H. Lebesque (secretary).
After this meeting an international conference on low temperature physics will be held at Leyden from June 23–28, 1958, organized to commemorate the first liquefaction of helium fifty years ago by Kamerlingh Onnes. The low temperature subjects will be treated partly at Leyden and partly at Delft.

In Delft subjects of a technical character and relating to the field of pure science will be discussed. They will cover:

- *a.* mechanical and electrical properties of solids (such as the influence of structural defects and contamination);
- *b.* thermo-electric power;
- *c.* thermometry;
- *d.* transport properties;
- *e.* liquefaction.

Those intending to participate in the meeting at Delft are requested to inform the secretary of the organizing committee, Drs. H. Lebesque, Laboratorium voor Technische Fysica, 11, Mijnbouwplein, Delft, Holland.

6th International Conference on Low Temperature

From June 23 till 28 1958, the sixth international conference on low temperature physics will be held in Leyden, the Netherlands in connection with the fiftieth anniversary of the first liquefaction of helium by Kamerlingh Onnes. Those who wish to attend this conference are urgently advised to inform the secretary of the conference, Dr. J. van den Handel, Kamerlingh Onnes Laboratory, Leyden, the Netherlands, as soon as possible.

7th International Mechanical Engineering Congress

According to the estimate, about 400 persons will be attending the 7th International Mechanical Engineering Congress to be held at Scheveningen from June 2 to June 6 under the patronage of H. R. H. Prince Bernhard. For the most part they will consist of industrialists from the metal industry, coming from Austria, Belgium, Denmark, Germany, Gt. Britain, Finland, France, Italy, the Netherlands, Norway, Sweden and Switzerland, i.e. the countries which together form the organizing committee.

The coming congress will be concerned with an exchange of technical and scientific data closely bound up with manufacturing methods in the metal industry. The subjects chosen for this purpose and the method of handling them will have a predominantly technical and economic bias. In view of the practical significance of the subjects it will be possible for industrial specialists as well as employers to attend the congress. This last point is entirely in line with the trend followed by the congress since its founding. Originally, that is to say, during the years immediately following the second World War, the congress was exclusively concerned with acquainting Europeans with technical and scientific developments which had taken place in the war years, mainly in the U.S.A., which was only understandable in view of the need felt in the European metal industry to make up arrears due to the war in the fields mentioned.

This same need explains why the initiative was taken to organize a congress of this kind, to be held, if possible, every year. It is thanks to the positive attitude adopted by the metal industry in France, Gt. Britain, Belgium, Sweden, Switzerland and the Netherlands that the congress has become a permanent organization. After the setting up of the organizing committee the following congresses were held:

1948 Paris: The development since 1939 of the general concept of manufacture in the mechanical engineering field and the development since 1939 of processing methods for materials.

1949 Paris: Production Efficiency.

1950 Brussels: Quality in the field of mechanical engineering production.

1952 Stockholm: Progress in the field of raw materials used in mechanical construction from the designer's point of view.

1953 Turin: Production and assembling methods for components in mechanical engineering.

1956 Paris: Surface treatment for the improvement of mechanical properties and protection against corrosion.

For the 1958 congress a programme has been drawn up which does full justice to aspects of the use and processing of raw materials and of the rationalization of production.

The Metal Industries Union in the Hague, which is organizing the 7th congress, has broken away from the contestable tradition at congresses of arranging for as many speakers as possible.

Only nine reports have been included on the programme of the forthcoming congress, which signifies a drastic limitation on the enormous flood of words poured over the heads of participants in the form of hundreds of addresses at former congresses.

The advantage of having a limited number of reports lies chiefly in one's being able to form a better picture of the subjects to be dealt with, which will also mean that the participants will be able to concentrate on these subjects all the better. It also allows room for deeper discussion and for the organization of excursions.

The Metal Industries Union will pay special attention to arranging for the excursions to link up as far as possible with the subjects discussed and also to providing as objective a picture as possible of the achievements of the metallurgical industry in the Netherlands. It hopes to be able to solve the language problem by making use of a simultaneous translation service. Moreover, pre-prints in English, French and German will be made available to participants.

The following subjects have been decided upon for the 7th International Congress:

GROUP 1: *The Industrialist and his Choice of his Raw Materials*

Heinz Schlegel, Chemical Engineer, Head of the Plastics Dept., of the firm of Bubeck & Dolde, Bâle:
Plastics and the possibility of their employment in the metal and electricity industries.

Marcel A. Cordovi, Manager, Materials and Testing Dept., The Babcock & Wilcox Company, Atomic Energy Division, New York:
Basic considerations in selecting materials for nuclear research components.

P. E. Lagasse, Director of the NationalMetallurgical Research Centre (Liège Section), Abbaye du Val-Benoit, Liège:
The quality of Thomas steels for forming and soldering in metallurgical manufacture and construction.

Dr. S. Wernick, Ph.D., M.Sc., F.R.I.C., F.I.M., Consulting Chemical Engineer and Honorary Secretary of the Institute of Metal Finishing:
The use of surface treatment to eliminate the need for costly and high quality raw materials.

GROUP 2: *The Mechanical Industries and their Suppliers of Unfinished Parts.*

Prof. Otto Kienzle, of the Technological College, Hanover:
The application of die-forged parts in finishing processes.

Auguste Pommier, Chairman of the Committee on the "Quality of Cast Parts" of the Federation of Mechanical and Metalworking Industries, Paris:
Relations between mechanics and metal founders.

Halvard Liander, Vice-Managing Director, ASEA, Västerås

Ivar Weibull, Head of the Svenska Aeroplan AB Laboratory, Linköping:
Engineering difficulties resulting from different national specifications of raw materials.

GROUP 3: *The Net Cost Price.*

N. J. Kooper, Manager of the Office of the Working-Group on Variety Reduction, The Hague:
Rational Selection and information from the client.

GROUP 3A: *Practical Examples of the Determination of the Optimum Size of Units of Production.*

J. Deridder, Technical Manager of the Travail Mécanique de la Tôle Company, Brussels:
Determination of the economical series for the manufacture of galvanized parts as a function of the net cost price and the sale price.

International Regional Planning Seminar

Early in July 1957 seventy experts working in the planning field attended a seminar on the methods and problems of regional planning and development organized for the International Centre for Regional Planning & Development by the Netherlands Universities Foundation for International Co-operation. The participants, who came from twelve countries and included economists, sociologists, engineers, administrators, architects, geographers and agriculturalists, heard papers on a variety of aspects of planning ranging from The Concept of a Region by M. Andre Prothin, Directeur-General de l'Amènagement du Territoire, France, to The Execution of the Plan by M. S. Herweijer, Directeur of the Netherlands Government Service for Land and Water Use. Dr. S. L. Mansholt, Netherlands Minister of Agriculture, Fisheries and Food Supply made a study of planning as a process in the development of society. He pointed out that, if planning became bureaucratic and totalitarian this did not indicate that planning itself was socially and politically unsatisfactory, but rather that those who operated and submitted to such a plan were democratically inept. National and international conditions make planning essential, and successful societies are those which are able to develop a technique of planning within a democratic structure and thereby remain able to control the plan.

Professor Dudley Stamp, in tracing the history of planning, showed how planning had steadily become more complex with the growth of population density and technology. He further affirmed that the basis of sound planning is survey and, in particular, the classification of land utilisation and of the quality of agricultural land, are fundamental to any such survey. M. Andre Prothin pointed out that in view of the diversity of concepts about regions there is a need for a unity of doctrine. There must necessarily be a delay before arriving at any such positive conclusions, and flexibility is essential in order to allow for many differing relevant factors. Several measures have already been taken to overcome the problems of regions overlapping political boundaries. Such measures demonstrate that the concept of a region is a living reality because it has an application not only to national planning but also to the international planning which is the task of tomorrow. Professor Brüning, who is president of the Academy of Raumforschung and Landesplanung in Hannover, set out in great detail the whole process of the preparation of a development plan and indicated the importance of continuing surveys and research to ensure that the plan can competently provide for changing circumstances and conditions.

After so much though devoted to planning and the planned, Dr. Silberman turned a critical light upon the planners and, having accepted that planning is now so complex that it can only be effected by teams, he asked what teams and hence what people make the best planners. As a sociologist he described different types of teams and discussed their characteristics, abilities and inadequacies. He made it very clear that unsatisfactory plans did not necessarily arise from inadequate expert knowledge or lack of basis data, but might arise because the group of experts failed to understand that, as members of a planning team, they had to integrate their various specialisms into a homogenous and effective whole. In the final paper M. Herwijer, Director of the Netherlands Government Service for Land and Water Use, described some Dutch experiences in land reclamation schemes and in the scheme for re-parcelling agricultural land into economic units. He made it clear that the chief problem in the reclamation areas is one of creating new societies whilst the problem in the agricultural improvement schemes is to ensure that the radical changes involved are acceptable to the existing society. He found that where the local population had been deeply involved in the surveys necessary for such a scheme they more easily accepted the final plan.

M. Jean Servais, the General Secretary, delivered a closing address on behalf of the Chairman of the International Centre, Dr. Leo Brandt. He stated that the chief object of the Centre is to promote the preparation of development plans on a regional basis. It proposes to do this by facilitating exchange of views among the various disciplines and professions involved. He stated that the Centre was anxious to co-operate with other organisations working in this field.

Editor's note:

The article above has been taken from "Doorway to the 20th Century", published by Community Projects Ltd., Coulsdon, Surrey, England. It describes the international seminar held under the chairmanship of Professor R. A. J. van Lier from July 1 to July 6, 1957. The proceedings of this seminar will be issued in a report, which will probably be appearing in the Spring of 1958. Copies may be requested from NUFFIC, *27, Molenstraat, The Hague.*

XIth International Congress on the Scientific Film

This congress was held at the Royal Tropical Institute in Amsterdam from 21 to 27 September, 1957. During it 235 films from 25 countries were shown. The sessions on modern techniques were devoted to a study of the new means available to the scientific film.

The medical, veterinary, scientific research and diffusion committees re-elected their members for the 1957/58 period, and the General Assembly elected a council on which the following eleven countries are represented: Australia, Austria, Czechoslovakia, France, Germany (Federal Republic), Germany (People's Republic), Gt. Britain, Italy, the Netherlands, Uruguay and the U.S.S.R.

The Board of the International Scientific Film Association will be composed as follows: President: L. Haessaerts, Belgium. Vice-Presidents: J. W. Varosieau (the Netherlands), Zguridi (U.S.S.R.). Honorary Secretary: J. Maddison, Gt. Britain. Treasurer: M. Jacoby, Poland.

Summary of the speech delivered at a press conference in the Amsterdam Town Hall on September 5, 1957, by Professor H. M. Dekking, professor of opthalmology in the State University at Groningen and chairman of the congress.

Cinematography has become an indispensable aid in many branches of science, both in research work and in teaching, and an annual congress is essential for the purpose of an exchange of methods and ideas among the practitioners of these sciences, who have little contact otherwise. The film can speed up or slow down time; it can observe rays invisible to the human eye; it can detect and fix more details in a moment than any human observer is capable of doing; it can capture a brief and never-recurring event so that we may see it again, as often as we wish. Finally, the film camera can be set up in places inaccessible to human beings: on the exterior of an aircraft, in dangerous places inside an atomic reactor, on the bottom of the ocean.

A film which is shown at the rate of 16 or 24 images a second can have been taken at speeds varying from one shot per hour to one million per second, thus enabling us to study processes which are too slow or far too rapid for the human eye to follow: for instance, the growth of plants, microscopic films of bacteria, of the splitting process in cells, of the growth of cancer cells in tissue cultures, and, among the too-rapid processes: movements of machine parts and automatic machines, cracking due to blows or strokes, ballistic tests. A further example: it is possible to propel a model ship, 1/10 or 1/30 of the actual size, in a tank so that the wave motion corresponds to reality, except that it is too rapid. By making a slow-motion film of this it is also possible to bring down the *time* to the "proper scale", thereby obtaining an astonishing similarity to the actual situation.

Thanks to the video-amplifier, developed by the firm of Philips among others, it is also possible nowadays to make X-ray films, which can even be considerably speeded-up, and this enables us to study at our ease processes *inside* the body, such as deglutition and speech movements, the course of the bloodstream in the heart, lungs and brain. During the congress a whole day will be devoted to the study of this new technique of X-ray cinematography.

Teaching: by showing a film to a large number of students or pupils it is possible to inform them of a new technique or working method that would formerly have required a whole staff of university-trained teachers. Thus the gains are an appreciable saving in staff and greater efficiency in teaching and in industry. A complicated physiological experiment need only be carried out once, if filmed, thereby sparing a large number of animals used for the purpose. A rare operation, a rare clinical picture, can be shown to students, whenever desired, which again means an enormous gain to medical teaching.

During the congress separate days will be devoted to subjects concerned with the medical, veterinary, industrial, research and sociological sections and to the "diffusion of science" – i.e. the work of bringing science to the public. In this last field particularly, more use will be able to, and should, be made of *television.* Naturally, there will be many difficulties to overcome first of all, particularly in view of the limited hours of transmission and the tendency for programme designers to lay too much emphasis on "entertainment". Useful results can only be obtained in this field by means of good co-operation and a great deal of mutual understanding. The film, "Dying Language", shown on the television screen a short while ago, provides a good example of what can be achieved here; it is a field in which the Netherlands is still far behind other countries.

I am sure that at this congress many men of science and many industrialists will meet with new ideas and unexpected possibilities which can be of great value to their work or to their businesses.

LIBRARIES AND MUSEUMS

(See „Principal academic societies, institutes and museums in the field of oriental studies")

MISCELLANEOUS

Scheme for a cosmic communications language

On hearing the term "artificial language", we think in the first place of Volapük or Esperanto. An artificial language which can boast greater age and wider fame is the language of mathematics, which is used to describe algebraic, geometrical, mechanical and certain physical relationships. The vocabulary of this language is meagre. By virtue of its construction it is far more suitable for its special purpose than the richer, but more chaotic, natural languages. In this century logical relations have also been described in a language of mathematical formulae, which is even more artificial than the traditional algebraic formula language. Might it not be possible to employ this logical language outside the field of mathematics as well? If it is desired to attempt this, it is necessary to set oneself a limited problem. For this purpose the speaker chose to construct a language with the aid of which it would be possible to communicate with intelligent inhabitants of other worlds. The phonemes of such a language would be radio signals of various duration and wave-length.

As far as vocabulary is concerned, it is not possible to make use of either of the existing languages (natural or artificial), since in cosmic communication, definition by means of indications is as good as excluded. Nevertheless, the speaker believed he had succeeded in developing such a vocabulary. Four chapters of this projected language, called "Lincos" (an abbreviation of "lingua cosmica"), are now ready, i.e. those covering Mathematics, Chronology, Human Conduct and Mechanics. The speaker demonstrated experiments with these four groups. A second chapter on Human Conduct and others on the Theory of Matter, Geography, Anatomy and Physiology are in preparation.

The speaker had not investigated the technical possibilities of applying the project.

Summary of lecture by Prof. H. Freudenthal, delivered at a meeting of the Natural Science Department of Royal Netherlands Academy of Sciences and Letters on September 28, 1957.

Reception Centre for foreign students

The reception centre for foreign students that has been opened in Amsterdam is a novelty for the Netherlands and for its capital. The building is the property of the Netherlands Institute for Cultural Relations, which has now furnished a number of rooms to provide foreign students with temporary accommodation. There is room for seven in all.

In the presence of representatives of university circles in Amsterdam, Mr. G. Sluizer, Secretary-General of the Institute, "handed over" the reception centre to Professor P. J. Verdam, Chairman of the Board of the Foreign Student Service, which board will take charge of the administration of the building.

From the Nieuwe Rotterdamse Courant

Dr. J. E. de Vos van Steenwijk to open observatory in South Africa

The Dutch astronomer, Dr. J. E. Baron de Vos van Steenwijk, chairman of the board of curators of the State University at Leyden and former Royal Commissioner of the province of North Holland, opened a new observatory last September in Hartebeespoort, near Pretoria.

One of the special telescopes of the South African observatory at Johannesburg is being transferred to the Leyden southern station at Hartebeespoort, since visibility is hampered by smoke and fog in the Johannesburg area. Close ties exist between Leyden and the South African observatory. For 34 years now, South Africa has been extending hospitality to Dutch astronomers from Leyden, one of the telescopes at Johannesburg having been put at their disposal.

From the Nieuwe Rotterdamse Courant

Leyden Orientalist back from Istanbul Library Research

The Oriental scholar, Dr. S. A. Bonebakker, who holds an academic appointment at the State University at Leyden, has recently returned to the Netherlands after a stay of almost three months in Istanbul for study purposes. The Netherlands Organization for Pure Scientific Research granted Dr. Bonebakker a "travel subsidy" for this journey to Istanbul, in which city he has carried out penetrating library research. During his stay there he enjoyed the hospitality of the Netherlands Historical and Archaeological Institute, which will be officially opened early next year.

In an interview, Dr. Bonebakker said that Istanbul was a city of libraries, in which one can find enormous collections of Arabic manuscripts. According to estimates, Turkey possesses 240,000 manuscripts in all, of which as many as 124,000, in Arabic, Persian and Turkish, are to be found in Istanbul, a collection which is one of the finest in the world, both as regards quality and quantity. These manuscripts originate from all periods, the oldest dating from the fourth century of Islam, i.e. about 900 A.D.

In carrying out his research work, Dr. Bonebakker has paid particular attention to works on Arabian theories of style and on ancient Arabic poetry. *From De Tijd.*

DOCTORAL DISSERTATIONS

Law

FODA, EZZELDIN. *The Projected Arab Court of Justice.* The Hague, 1957.
State University at Leyden.

HEERING, ANTON HENDRIK. *Eenheid en verscheidenheid der sociale uitkeringsregelingen;* (Unity and Diversity of Social Payment Schemes). Arnhem, 1957.
With a summary in English.
State University at Groningen.

KO SWAN SIK. *De meervoudige nationaliteit;* (Plural Nationality). Leyden, 1957.
With a summary in Indonesian and English.
State University at Leyden.

SCHREVEN, CORNELIA MARIA VAN. *Diefstal in groepsformatie gepleegd;* (Robbery Carried out by Gangs). The Hague, 1957.
State University at Leyden.

Medicine

BEAUMONT, PETER MATHIAS. *De ziekte van Besnier-Boeck en tuberculose;* (Besnier-Boecks Disease and Tuberculosis). Helmond, 1957.
With a summary in English.
State University at Groningen.

BIRNIE, JOHAN. *Een onderzoek betreffende de schildklierfunctie bij normale zwangeren en bij zwangeren met een ongunstige anamnese;* (An Inquiry into the Function of the Thyroid Gland in Cases of Normal Pregnancy and Cases with Unfavourable Anamnesia). Amsterdam, 1957.
With a summary in English.
State University at Leyden.

BLITZ, JACOB. *Over de behandeling van fracturen van het trochanterblok en omgeving;* (Concerning the Treatment of Fractures of the Trochanter Block and Adjacent Areas). Dordrecht, 1957.
Municipal University of Amsterdam.

BURBACH, JOHANNES PETER EDVARD. *Bijdrage tot de kennis van blaarvorming in de huid;* (Contribution to the Knowledge of the Formation of Blisters in the Skin). Amsterdam, 1957.
With a summary in English.
Municipal University of Amsterdam.

FRETS VAN BUUREN, JOHANNA JULIE. *Onderzoek naar de betekenis van de diagnose neuropathie. Dl. 2: Psychiatrische aspecten;* (Inquiry into the Significance of the Diagnosis Neuropathy. Vol. 2: Psychiatric Aspects). Leyden, 1957.
With a summary in English, French and German.
State University at Leyden.

GRINTEN, MATHIJS PETRUS VAN DER. *Hoe boter, margarine en olijfolie worden verdragen en geresorbeerd door normale personen en lijders aan een ziekte van lever of galwegen;* (Tolerance and Absorption of Butter, Margarine and Olive-oil in normal Subjects and in Patients suffering from Liver Diseases or from Diseases of the Bile Ducts). Nymegen, 1957.
With a summary in English.
Municipal University of Amsterdam.

HAVERKAMP BEGEMAN, NELLIE. *Onderzoek naar de betekenis van de diagnose neuropathie. Dl. 1: Pediatrische aspecten;* (Inquiry into the Significance of Diagnosis Neuropathy. Vol. 1: Pediatria Aspects). Leyden, 1957.
With a summary in English, French and German.
State University at Leyden.

HOOG, CONSTANTIJN EUGENIUS VAN DER. *Enige klinische aspecten van het pyrodruivenzuurmetabolisme;* (Some Clinical Aspects of Pyro-racemic Acid Metabolism). The Hague, 1957.
With a summary in English.
State University at Groningen.

LINGBEEK, MEINHART STEVEN. *De diagnostiek van beginnende schizophrenie met behulp van de Rorschach-test;* (The Diagnosis of incipient Schizophrenia with the Aid of the Rorschach Test). 1957.
With a summary in English.
State University at Leyden.

MEULEN, HANS VAN DER. *Een katamnestisch onderzoek bij patiënten met psoriasis vulgaris;* (A catamnestic Survey of Patients with Psoriasis Vulgaris). Arnhem, 1957.
With a summary in English and French.
Municipal University of Amsterdam.

RUYTER, JACOBUS ADRIANUS MARIA DE. *Analysis of some Results in Hospital Obstetrics in Aruba (Netherlands Antilles).* Leyden, 1957.
State University at Leyden.

SAUER, ADRIAAN JOHANNES. *Onderzoek naar de relatie tussen schildklier, vitamine B_{12} en de migratie van granulocyten in vitro;* (Inquiry into the Relation between the Thyroid Gland, Vitamin B_{12} and the Migration of Granulocytes "in vitro"). Leyden, 1957.
State University at Leyden.

SCHADE, JOHANNES PETRUS. *Electro-areo-grafie van de cortex cerebri;* (Electro-areography of the cerebral Cortex). Amsterdam, 1957.
With a summary in English, French and German.
Municipal University of Amsterdam.

VERBEEK, ERNST. *Arthur Rimbaud. Een pathografie;* (ARTUR RIMBAUD. A pathography). Amsterdam, 1957.
With a summary in French, English and German.
State University at Utrecht.

VISSER, PIET. *Electrophysiological Investigations into the Influence of some Metabolic Inhibitors on Retina and visual Cortex in Cat and Rabbit.* Amsterdam, 1957.
With a summary in Dutch.
Municipal University of Amsterdam.

WAAL, FRANS CORNELIS DE. *Vacuolen een structureel element in het neuropileem van de hersenschors;* (Vacuoles a structural Element in the Neuropil of the cerebral Cortex). Zaandijk, 1957.
With a summary in English.
Municipal University of Amsterdam.

Science

BLOK, JOHANNES. *Radioactieve besmetting van de biosfeer in Nederland;* (Radio-active Contamination of the Biosphere in the Netherlands). Amsterdam, 1957.
With a summary in English.
Free (Reformed) University of Amsterdam.

BOERBOOM, ANNE JOHANNES HENDRIK. *De ionenoptiek van de massaspectrometer met bepaling van het systeem ijzer-koolstof-zuurstof;* (Ion Optics of the Mass-spectrometer and Determination of the System Iron-carbon-oxygen). 1957.
With a summary in English.
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BONGERS, PIET FRANS. *Structuur en magnetische eigenschappen van enkele complexe oxyden der overgangselementen;* (Structure and magnetic Characteristics of some complex Oxydes of the Transition Elements). The Hague, 1957.
With a summary in English.
State University at Leyden.

BOTTEMA, MURK. *Photometric Setting Methods in Interferometry.* The Hague, 1957.
With a summary in Dutch.
State University at Groningen.

BROUWER, DIRK MARINUS. *Onderzoekingen in verband met de rol van een imidazoolgroep bij de werking van chymotrypsine;* (Investigations concerning the Rôle of an Imadozolol Group in the Action of Chymotrypsine). The Hague, 1957.
With a summary in English.
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With a summary in French.
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DODDENS, ALBERT NOMDO. *Spectroscopy with Oriented Nuclei.* The Hague, 1957.
With a summary in Dutch.
State University at Groningen.

DIJKSTRA, GREULT. *Infra-red Absorption of the Carbon-carbon Double Bond stretching Vibration.* 1957.
With a summary in Dutch.
Municipal University of Amsterdam.

HUGENHOLTZ, NICOLAAS MARINUS. *The Quantum Theory of large Systems and its Application to the Structure of Nuclear Matter.* 1957.
With a summary in Dutch.
State University at Utrecht.

JEUKEN, MARIE. *A Study of the Respiration of Misgurnus Fossilis (L.), the Pond Loach.* The Hague, 1957.
State University at Leyden.

KAMP, HARMEN VAN. *Energetische grootheden van cyclanen;* (Energetic Magnitudes of Cyclanes). The Hague, 1957.
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With a summary in Dutch.
State University at Utrecht.

MOEKEN, HERMAN HENDRIK PHILIP. *Production of Radio-Isotopes with Charged Particles.* The Hague, 1957.
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Municipal University of Amsterdam.

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MURRIS, ROELOF JOHN. *Geology and Petrology of the Gieravardo-Jofjället Region, Västerbotten, Sweden;* Amsterdam, 1957.
With a summary in Dutch.
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SCHMITZ, GERARD. *De terrassen en meanders van de Luxemburgse Sauer boven Goebelsmuhle;* (The Terraces and Meanders of the Sauer in Luxembourg above Goebelsmühle). Utrecht, 1957.
With a summary in French.
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SCHRAMA, JACOBUS. *On the Phenomenological Theory of Linear Relaxation Processes.* The Hague, 1957.
With a summary in Dutch.
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Veterinary Science

WIERTZ, GERRIT. *Schildklieronderzoek bij nuchtere kalveren uit verschillende delen van Nederland;* (A Study of the Thyroid Gland in Newborn Calves from different Parts of the Netherlands). Wageningen, 1957.
With a summary in English.
State University at Leyden.

MICHELS, HERVE. *Beschouwingen over thermoregulatie, adaptatie en produktie van het rundvee in de tropen;* (Observations concerning Thermoregulation, Adaptation and Production of Beef Cattle in the Tropics). Lendelede‘ 1957.
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DEKKER, JOHANNES. *Inwendige ontsmetting van door Ascochyta pisi aangetaste erwtezaden met de antibiotica rimocidine en pimaricine, benevens enkele aspecten van het parasitisme van deze schimmel;* (Internal Seed Disinfection of Peas infected by Ascochyte pisi by means of the Antibiotics Rimocidin and Pinaricin and some Aspects of the Parasitism of this fungus). Wageningen, 1957.
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ALBLAS, JOHANNES BARTHOLOMEUS. *Theorie van de driedimensionale spanningstoestand in een doorboorde plaat;* (Theory of the three-dimensional tension in a drilled plate). Amsterdam, 1957.
With a summary in English.
Technological University at Delft.

BOER, HERMAN DE. *De commissarisfunctie in Nederlandse, ter beurze genoteerde, industriële naamloze vennootschappen, bezien van organisatorisch gezichtspunt;* (The Company Director Function in the Netherlands. Industrial Limited Companies on the Official Stock Exchange List seen from the point of view of organization). Amsterdam, 1957.
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Technological University at Delft.

Economics

COETZEE, FRANS JOZEF JACOBUS. *Landboukoöperasie in Suid-Africa met besondere verwijsing na die finansiering;* (Agricultural Co-operatives in South Africa, with Special Reference to the Financing Problem). Leyden, 1957.
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Key to abbreviations

KITLV:	Royal Institute of Linguistics, Geography and Ethnology
VKI:	Essays, Royal Institute of Linguistics, Geography and Ethnology
Inst. NO:	Netherlands Near East Institute
de-G:	De Goeje Institute
O, Rh-T:	Orientalia Rheno-Traiectina
Sin. L.:	Sinica Leidensia
MAWL:	Announcements of the Royal Netherlands Academy of Sciences and Humanities, Literature Department
VAWL:	Essays, Royal Netherlands Academy of Sciences and Letters, Literature Department
VBG:	Essays, Royal Batavian Society of Arts and Sciences

I *Journals and Series*

Kon. Instituut voor Taal-, Land- en Volkenkunde:
(Royal Institute of Linguistics, Geography and Ethnology:)
Bijdragen (vier afleveringen per jaar)
(Contributions (four issues per annum)) 1853 onwards
Verhandelingen (Essays) 1938 „
Adatrechtbundels (Volumes of Adat Law) 1910 „

Nederlands Instituut voor het Nabije Oosten:
(Netherlands Near East Institute:)
Bibliotheca Orientalis, Revue internationale et critique pour le Proche Orient et les civilisations anciennes, paraissant tous les deux mois, sous la direction de MM. F. M. Th. de Liagre Bohl, A. de Buck, et A. A. Kampman 1943 onwards
Lectiones Orientales 1948 „
Commentationes Orientales 1954 „

Vooraziatisch-Egyptisch Genootschap "Ex Oriente Lux":
(West-Asian and Egyptian Society "Ex Oriente Lux":)
Jaarbericht (Annual Report) 1943 onwards
Mededelingen (Announcements) 1934 „
"Phoenix" (Bulletin) 1955 „

Rijksmuseum van Oudheden:
(National Museum of Antiquities:)
Oudheidkundige Mededelingen
(Archaeological Announcements) 1907 „

Instituut Kern: (Kern Institute:)
Annual Bibliography of Indian Archaeology 1926 „

Rijksmuseum voor Volkenkunde:
(National Ethnological Museum:)
Mededelingen (Announcements) 1947 „

Kon. Instituut voor de Tropen (voorheen Indisch Inst.):
(Royal Tropical Institute (formerly the Indies Institute):)
Mededelingen Afd. Culturele en Physische Anthropologie (voorheen Volkenkunde)
(Announcements of the Department of Cultural and Physical Anthropology (formerly the Ethnological Department) 1914 onwards

Indo-Irian Journal. Editors in Chief: J. W. de Jong (Leiden), F. B. J. Kuiper (Leiden) 1957 „

T'oung Pao. Archives concernant l'histoire, les languea, la géographie, l'ethnographie et les arts de l'Asie orientale. Leiden 1890 „

Indonesië, tweemaandelijks tijdschrift gewijd aan Indonesië en verwant cultuurgebied
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Uitgaven van de "De Goeje-Stichting"
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SCHOLARSHIPS AND FELLOWSHIPS FOR FOREIGN STUDENTS, TENABLE IN THE NETHERLANDS1)

Netherlands Universities Foundation for International Co-operation

27, Molenstraat, The Hague.

a. Scholarships for study at the Institute of Social Studies; *b.* Fellowships for study at the Institute of Social Studies; *c.* A limited number of other scholarships and fellowships.

1. *a.* Social Sciences (Two-Year Course),
   b. Public Administration,
   c. Unrestricted.
2. *a–b.* Institute of Social Studies, The Hague, *c.* The Netherlands.
3. Available to nationals of *all countries;* candidates must have for *a.* M.A. degree in social sciences, or its equivalent; for *b.* graduate (or equivalent) intellectual standard at and preferably some years of experience at middle or higher level of the public service; for *c.* advanced graduate status.
4. *a.* Fl. 6080 (Two-Year Course in the Social Sciences),
   b. Fl. 2100 (Six-Month Course in Public Administration),
   c. Unspecified.
5. *a.* 16 months; *b.* 6 months; *c.* unspecified.
6. Unspecified[2].
7. *a–b.* The Rector, Institute of Social Studies, 27, Molenstraat, The Hague: *a.* by 30 June; *b.* by 15 October; *c.* Netherlands Universities Foundation for International Co-operation, 27, Molenstraat, The Hague.

Government of the Netherlands

Ministry of Education, Arts and Science, The Hague.
Exchange Scholarships of the Netherlands.
Netherlands-Belgian Cultural Convention.

1. Unrestricted.
2. Netherlands.
3. Available to *Belgian* nationals; must have university degree or have completed several years' higher study.
4. Fl. 250 per month plus tuition.
5. 1 to 6 months[1].
6. The Convention provides for exchanges of approx. 90 months; number awarded depends on the duration of each scholarship[2].
7. Ministère de l'Instruction Publique, Brussels, Belgium, in May.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Exchange Scholarships of the Netherlands.

a. Anglo-Dutch Cultural Convention.
b. Netherlands-French Cultural Convention.

1. Unrestricted.
2. Netherlands.
3. Available to *a. British* nationals; must have a university degree or have completed several years' higher study; *b.* nationals of *France* who have completed several years' higher study.
4. Fl. 250 per month plus tuition.
5. *a.* 1 academic year; *b.* 1 to 6 months.
6. *a.* 5[2]; *b.* the Convention provides for exchanges of approx. 90 months; number awarded depends on the duration of each scholarship[2].
7. *a.* The Controller, Education Division, The British Council, 65 Davies Street, London, W. 1 England, by March 12;
   b. Office National des Universités et Ecoles Françaises, 95 Boulevard Raspail, Paris-6e, France, in May.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Netherlands Government Scholarships.

1. Unrestricted.
2. Netherlands.
3. Available to nationals of *a.* Australia; *b.* Austria; *c.* Canada; *d.* Denmark; *e.* Germany; *f.* Iceland; *g.* India; *h.* Israel; *i.* Norway; *j.* Spain; *k.* Sweden; *l.* Yugoslavia; must have university degree or have completed several years' higher study.
4. ± Fl. 2500 plus tuition.
5. 1 academic year.
6. *a.* 3; *b.* 2; *c.* 1; *d.* 1; *e.* 3; *f.* 1; *g.* 1; *h.* 1; *i.* 2; *j.* 1; *k.* 1; *l.* 2.
7. *Australia:* Office of Education of the Commonwealth of Australia, Canberra; *Austria:* Bundesministerium für Unterricht, Minoritenplatz 1, Vienna; *Canada:* Netherlands Embassy, Ottawa; *Denmark:* Ministry of Education, Copenhagen; *Germany:* Deutscher Akademischer Austausch-

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1) The figures in the margin refer to: 1: field of study; 2: where tenable; 3: conditions; 4: value; 5: duration 6: number available; 7: address for applications.
A "1" added after the duration of the scholarship indicates that it is renewable or extendible. A "2" added after the number of scholarships available indicates that the same award will be offered for 1958–'59.

dienst, Nassestrasse 11a, Bonn; *Iceland:* Ministry of Education, Reykjavik; *India:* Ministry of Foreign Affairs, New Delhi; *Israel:* Netherlands Legation, Jerusalem; *Norway:* Kontoret for culturelt samkven med utlandet, Oslo; *Spain:* Direccion General de Relaciones Culturales, Madrid; *Sweden:* The Swedish Institute, Kungsgaten 42, Stockholm; *Yugoslavia:* Commission for Foreign Cultural Relations, Bircaninova 6, Belgrade.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Exchange Scholarships of the Netherlands. Cultural Convention with Luxembourg.

1. Unrestricted.
2. Netherlands.
3. Available to nationals of *Luxembourg;* must have completed several years' higher study.
4. Fl. 250 per month plus tuition.
5. 1 to 3 months[1].
6. The Convention provides for exchanges of approx. 12 months; number awarded depends on the duration of each scholarship[2].
7. Ministère de l'Education Nationale, Luxembourg.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Exchange Scholarship of the Netherlands. Cultural Convention with Italy.

1. Unrestricted.
2. Netherlands.
3. Available to nationals of *Italy*, must have university degree or have completed several years' higher study.
4. Fl. 250 per month plus tuition.
5. 8 months.
6. 3[2].
7. Direzione Generale delle Relazioni Culturali, Ministere degli Affari Esteri, Piazza Firenze 27, Rome, Italy.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Netherlands Government Scholarships.

1. Unrestricted.
2. Netherlands.
3. Available to *South African* graduates and undergraduates.
4. Fl. 2.500 plus tuition.
5. 1 academic year.
6. 10[2].
7. Genootschap Nederland-Suid-Afrika, p/a Prof. Dr. D. Pont, Waterkloofweg 266, Pretoria, South Africa.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
a. Hendrik A. van Coenen Torchiana Scholarship. *b.* Edward W. Bok Scholarship. *c.* Hendrik Willem van Loon Scholarship.

1. Unrestricted.
2. Netherlands.
3. Available to nationals of U.S.A.; age preferably under 28; must have bachelor's degree; applicants in the field of medicine must have M.D. degree; some knowledge of Dutch language desirable.
4. Fl. 2.500 plus tuition.
5. 1 academic year.
6. *a.* 1[2]; *b.* 1[2]; *c.* 1[2].
7. U.S. Student Department, Institute of International Education, 1 East 67th Street, New York 21, N.Y., U.S.A. by 1 March.

Government of the Netherlands

Ministry of Education, Arts and Sciences, The Hague.
Scholarships for Netherlands Summer Courses.

1. Subjects included in Dutch university summer courses.
2. Netherlands.
3. Available to nationals of *Italy* and *Spain.*
4. Fl. 400.
5. 1 month.
6. 7[2]: 3 to Italy; 4 to Spain.
7. *Italy:* Direzione Generale delle Relazioni Culturali, Ministero degli Affari Esteri, Piazza Firenze 27, Rome;
   Spain: Dirección General de Relaciones Culturales, Madrid.

Free (Reformed) University of Amsterdam

162, Keizersgracht, Amsterdam.
Scholarships.

1. Theology, philosophy, arts, medicine, law, natural sciences (chemistry, physics, mathematics, biology), social and economic sciences.
2. Netherlands: Free Reformed University of Amsterdam.
3. Available to nationals of *all countries;* must be educated to university entrance standard. Awards are to enable recipients to acquire academic knowledge based on Christian principles.

4. Maintenance, tuition and an amount for incidental expenses.
5. 1 academic year.
6. 4[2].
7. Secretary of the International Relations Committee, Vrije Universiteit te Amsterdam, Keizersgracht 166, Amsterdam, April 15.

Netherlands Organization for Pure Scientific Research

60, Lange Voorhout, The Hague.
Exchange Fellowships for Scientific Research.

1. Scientific research.
2. Netherlands.
3. Available to *French* nationals who are scientific research workers of proven ability, in exchange for similar facilities for Netherlands research workers offered by the National Council for Scientific Research in Paris.
4. Covers transportation, maintenance and research facilities.
5. Varies in individual cases.[1]
6. Unspecified[2]; as the convention between the Netherlands and the CNRS provides for exchanges of 30 months of fellowships in an academic year, number awarded depends on duration of each award.
7. Monsieur le Directeur du CNRS, 4e Bureau Echanges, 13 quai Anatole-France, Paris-7e, France.

Utrecht Observatory

2, Zonnenburg, Utrecht.
Exchange Assistantship.

1. Astronomy.
2. Netherlands: Utrecht Observatory.
3. Available, on an exchange basis, to students of theoretical or observational astrophysics in *any country*.
4. Exchange of salary.
5. Approx. 3 months.
6. 1[2].
7. Utrecht Observatory, University of Utrecht, 2, Zonnenburg, Utrecht.

Hague Academy of International Law

Peace Palace, The Hague.
Scholarships for the Academy's summer sessions, offered by various governments and by private and public institutions.

1. International law.
2. The Hague Academy of International Law.
3. Applicants' antecedents should qualify them to benefit from the tuition.
4. in 1958: Fl. 300, covering approximate expenses during the three-week session. Travelling expenses will not be refunded.
5. July – August, 1958.
6. No more than two scholarships can be awarded in respect of each country during the same year. This rule does not apply to scholarships instituted in a country for the benefit of its nationals, the award of which has been entrusted to the Curatorium of the Academy.
7. Secretariat of the Hague Academy of International Law, The Peace Palace, The Hague, before April 1.

French Institute in Amsterdam

Maison Descartes, 11, Museumplein, Amsterdam.
Donor: French Government.
Research Fellowships.

1. Unrestricted.
2. Netherlands: Maison Descartes, Amsterdam.
3. Available to *French* nationals engaged in study or research work for which documentation is available only in the Netherlands. Candidates must submit a plan of study with their applications.
4. Fl. 325.— (covers maintenance); room provided at Maison Descartes; transportation Paris-Amsterdam in certain cases.
5. 1 to 10 months, between October 1 and July 31.
6. Unspecified[2] (grants awarded are for a total of 50 months).
7. M. Henri Gouhier, professeur à la Sorbonne, 21 Boulevard Flandrin, Paris-16e, France, by May 1.

Fulbright Program

Scholarships in the Netherlands, Fulbright Agreement, U.S.A.–Netherlands.

1. Unrestricted.
2. Netherlands.
3. Available for U.S. citizens – students must have college-education at least; teachers M.A.; Lecturers Ph.D. degree.
4. *ƒ* 538 per month + tuition (students)
   ƒ 1284 ,, ,, (teachers)
   ƒ 1350—*ƒ* 1680 per month (lecturers)
   Travelcosts paid to and from the Netherlands.
6. Approximate figures: 20 lecturers, 30 students, 20 teachers[2].
5. Duration: 9 months (students, lecturers), 10 months (teachers).

7. For students:
Institute of International Education,
1 East 67th Street, New York 21, N.Y.
For teachers:
Office of Education,
Department of Health, Education and Welfare, Independence Avenue, Washington 25, D.C.
For lecturers:
Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D.C.

BASIC DATA ON INTERNATIONAL COURSES OFFERED IN THE NETHERLANDS[1])

(see also the "International Courses" Section in this Bulletin)

Institute of Social Studies

Information: The Rector, Institute of Social Studies, 27, Molenstraat, The Hague.

COURSES OFFERED:

a. Two-year Course in the Social Sciences. The study of social change and economic development in the widest sense. The course leads to the degree of Master of Social Sciences.
REQUIREMENTS FOR ADMISSION: Advanced academic standing in one of the social sciences.
NEXT COURSE STARTING: September 1958. Closing date for applications: June 30, 1958.

b. Six-Month Advanced Diploma Course in Public Administration.
REQUIREMENTS FOR ADMISSION: Advanced academic status and preferably some years of experience in the public service.
NEXT COURSE STARTING: January 1959. Closing date for applications: October 15, 1958.

c. Six-Month Advanced Diploma Course in Economic Planning and Social Accounting.
REQUIREMENTS FOR ADMISSION: Advanced academic status and preferably some years of experience in the public service.
NEXT COURSE STARTING: January 1959. Closing date for applications: October 15, 1958.

d. Six-Month Advanced Diploma Course in Social Welfare Policy for Low Income Countries.
REQUIREMENTS FOR ADMISSION: Practical experience in social work, preferably at the teaching and public service level.
NEXT COURSE STARTING: September 1958. Closing date for applications: June 30, 1958.

Technological University at Delft— Netherlands Universities Foundation for International Co-operation

Information: Netherlands Universities Foundation for International Co-operation, 27, Molenstraat, The Hague.

COURSE OFFERED:
International Course in Hydraulic Engineering. Three branches of study:
1. Tidal and coastal engineering;
2. Reclamation;
3. Rivers and navigation works.

The course lasts twelve months and leads to a Diploma.
REQUIREMENTS FOR ADMISSION: a degree in engineering of a recognized institution of higher learning.
NEXT COURSE STARTING: October 1958 (at Delft).

Agricultural University at Wageningen— Netherlands Universities Foundation for International Co-operation

Information: Netherlands Universities Foundation for International Co-operation, 27, Molenstraat, The Hague.

COURSE OFFERED:
Summer course of the combined Netherlands Universities, 1958. Subject: Town and Country in the evolution of civilization.
REQUIREMENTS FOR ADMISSION: Students at, or graduates of, an institute of higher education.
NEXT COURSE: July 16–August 5, 1958.

Training Courses and Research Foundation — Netherlands Universities Foundation for International Co-operation

Information: Netherlands Universities Foundation for International Co-operation, 27, Molenstraat, The Hague.
COURSE OFFERED:

International Course on Small-Scale Industries. Theoretical and practical training in investigating and solving the specific problems of small-scale industries, and in finding a methodology which can be applied to the establishment of new industries. Successful attendance of the course leads to a diploma.
REQUIREMENTS FOR ADMISSION: B.Sc. or M.Sc. in engineering or equivalent degree of recognized universities.
NEXT COURSE STARTING: November 1958 until end of April 1959.

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[1]) Courses are given in English only, unless otherwise mentioned.

International Training Centre for Aerial Survey

Information: The Dean, International Training Centre for Aerial Survey, 3, Kanaalweg, Delft.

COURSES OFFERED:

a. Photogrammetry, including cartography, topography and theory of errors;

b. Photogeology;
c. Use of air photographs for soil survey and other agricultural purposes;

d. The same for forestry and other sylvicultural purposes;

e. Air photography and survey navigation.
Lectures and instruction are given in English, French or German.
Courses are adapted to individual needs, and may therefore vary from some months to two years.
REQUIREMENTS FOR ADMISSION: Dependent upon the individual student's programme of study.
NEXT COURSE(S) STARTING: September and January.

Roman Catholic University at Nymegen

Information: Faculty of Theology, 13, Wilhelminasingel, Nymegen.

COURSE OFFERED:
"Theological Week". This course will be held in the second week of July, 1958. Further particulars will be announced later on.

The Hague Academy of International Law

(Founded in 1923 with aid from the Carnegie Endowment).

Information: The Secretariat, The Hague Academy of International Law, Peace Palace, The Hague.

COURSES OFFERED:

a. 29th Summer Session, 1958. (consisting of two periods). Lectures on international law in English and French are given in both periods. At the end of each period students admitted to the course sit for an examination, which leads in the case of a pass to the award of a diploma.
REQUIREMENTS FOR ADMISSION: Study and/or practical experience in international law: university professors and students, civil servants, judges, lawyers, diplomatic, consular and international officers.
NEXT COURSE: 1st period: July 7–26, 1958; 2nd period: August 4–23, 1958.

b. 2nd Session of the Centre of Studies and Research in International Law and International Relations. During this session 30 specially selected scholars will be dealing with case-studies in international law. Attendants of the course will be divided into an English-speaking and a French-speaking group, each with its own Director of Studies.
REQUIREMENTS FOR ADMISSION: advanced academic degree, such as the Academy's diploma, or proof of at least three years' actual practice in international affairs.
NEXT COURSE: August 25–October 5, 1958.

Institute of Oriental Studies, Leyden

Information: The Secretary, Institute of Oriental Studies, 61, Rapenburg, Leyden.

COURSES OFFERED:

Language and culture of Indonesia and Malaya, The Arabian Countries, Japan, China.
REQUIREMENTS FOR ADMISSION: Candidates must be qualified for University Studies in their own country.
NEXT COURSES STARTING: October 1958 (duration 3 or 7 months).

International Agricultural Study Centre—Ministry of Agriculture — Agricultural University at Wageningen

Information: Director International Agricultural Study Centre, 1, Generaal Foulkesweg, Wageningen.

COURSES OFFERED:

a. International Meeting on Methods and Programme Planning in Agricultural and Home Economics Extension. Languages: French, English, German.
REQUIREMENTS FOR ADMISSION: the course is especially devised for extension officers.
NEXT COURSE: July 7–31, 1958.

b. International Seminar on Land Development for Agricultural Uses. Languages: French, English, German.
REQUIREMENTS FOR ADMISSION: The seminar aims to attract officials who have to promote, co-ordinate and supervise land development projects in their various aspects, in their own country.
NEXT COURSE: August 25–September 12, 1958.

Ministry of Education, Arts and Sciences

Information: Congress Organization Office, Ministry of Education, Arts and Sciences, 3, R. J. Schimmelpennincklaan, The Hague.

COURSES OFFERED:

a. Summer Course on Dutch Language and Culture, Utrecht, 1958.
REQUIREMENTS FOR ADMISSION: Participants must be French-speaking persons, interested in Dutch language and culture by virtue of their profession or for other reasons.
NEXT COURSE: Augustus 18 to September 6, 1958.

b. Vacation courses for Belgian teachers, Amsterdam, 1958 (organized in co-operation with the Belgian Ministry of Public Education).
REQUIREMENTS FOR ADMISSION: Participants must be engaged in teaching in Belgium.
NEXT COURSE: For secondary school teachers: July 7 to 22, 1958. For elementary school teachers: July 28 to August 12, 1958.

Netherlands Universities Foundation for International Co-operation

Information: NUFFIC, 27 Molenstraat, The Hague.

COURSE OFFERED:
„Survey of the Netherlands" — introductory courses on the Netherlands, lasting about one week. —
REQUIREMENTS FOR ADMISSION: usual requirements for University Study.
NEXT COURSE: courses will be given during summer months upon request for groups of at least 15 students.

Bouwcentrum (Building Centre)

Information: Bouwcentrum, P.O. Box 299, Rotterdam.

COURSE OFFERED: International Course on Building – in co-operation with the Central National Council for Applied Scientific Research in the Netherlands, TNO. The course is on the graduate level and lasts six months. Its object is to present a systematic basis for the treatment of the problems encountered in the building industry, as well as to give a number of practical methods for tackling these problems.
REQUIREMENTS FOR ADMISSION: B.A., B.Sc. or equivalent degree of recognized universities or colleges. Applicants must, in their own countries, have a task concerned with building.
NEXT COURSE STARTING: September 1958.

CALLING ALL REGISTRARS OF INSTITUTES OF HIGHER EDUCATION AND RESEARCH IN ALL COUNTRIES

NUFFIC is being approached by a growing number of Dutch students and graduates desiring to continue their studies with the request for information concerning the possibilities of studying and carrying out research work in other countries.

In order to be able to deal competently with the requests, NUFFIC has an immediate need of information concerning the training and research facilities available, courses and special subjects offered, requirements of admission etc., etc., from as many universities abroad as possible.

An appeal is therefore being made to all registrars of institutes of higher education and research abroad to put NUFFIC on their mailing lists so that we may receive copies of their calendars, announcements and prospectuses.

NUFFIC's address is:

NETHERLANDS UNIVERSITIES FOUNDATION FOR
INTERNATIONAL CO-OPERATION,

27, Molenstraat, the Hague, the Netherlands.

The following Netherlands Universities participate in the Netherlands Universities Foundation for International Co-operation:

State University at Leyden
State University at Groningen
State University at Utrecht
University of Amsterdam
Free (Reformed) University of Amsterdam
Roman Catholic University at Nymegen
Technological University at Delft
Agricultural University at Wageningen
Netherlands School of Economics at Rotterdam
Roman Catholic School of Economics atTilburg

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